12.3.138 v.4
10-31-07

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC
An Employee - Owned Company

October 31, 2007 Analytical Report for Service Request No: K0709913

Larry Gentile
Longview Fibre Paper & Packaging Inc
5901 East Marginal Way South
Seattle, WA 98124

RE: Seattle Groundwater/Wastewater

Dear Larry:

Enclosed are the results of the samples submitted to our laboratory on October 24, 2007. For your reference, these analyses have been assigned our service request number K0709913.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291. You may also contact me via Email at EWallace@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/lb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	*A tentatively identified compound, a suspected aldol-condensation product.*
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	*The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.*
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Paper & Packaging Inc
Project Name : Seattle Groundwater/Wastewater
Project No. : NA

Service Request : K0709913

Sample Name :	Lab Code :
Decant #1	K0709913-003
Method Blank	K0709913-MB

Comments:

Approved By: _____ Date: 10/31/07

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	*Longview Fibre Paper & Packaging Inc*	**Service Request :**	K0709913
Project Name :	Seattle Groundwater/Wastewater	**Date Collected :**	10/22/07
Project No. :	NA	**Date Received :**	10/24/07
Matrix :	Water	**Date Extracted :**	10/26/07

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	10/30/07	10/30/07
Sample Name	**Lab Code**		
Decant #1	K0709913-003	221	184
Method Blank	K0709913-MB	ND	ND

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0709913
Project:	Seattle Groundwater/Wastewater	**Date Collected:**	10/22/2007
Sample Matrix:	Water	**Date Received:**	10/24/2007

Diesel and Residual Range Organics

Sample Name:	North Parking Lot	**Units:**	ug/L
Lab Code:	K0709913-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	2300	Y	300	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	1800	L	590	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	110	50-150	10/27/07	Acceptable
n-Triacontane	116	50-150	10/27/07	Acceptable

Comments:

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0709913
Project:	Seattle Groundwater/Wastewater	**Date Collected:**	10/22/2007
Sample Matrix:	Water	**Date Received:**	10/24/2007

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K0709913-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	20000	Y	320	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	4700	L	630	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	120	50-150	10/27/07	Acceptable
n-Triacontane	138	50-150	10/27/07	Acceptable

Comments:

0008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0709913
Project:	Seattle Groundwater/Wastewater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0711656-3	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	ND	U	500	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	107	50-150	10/27/07	Acceptable
n-Triacontane	126	50-150	10/27/07	Acceptable

Comments:

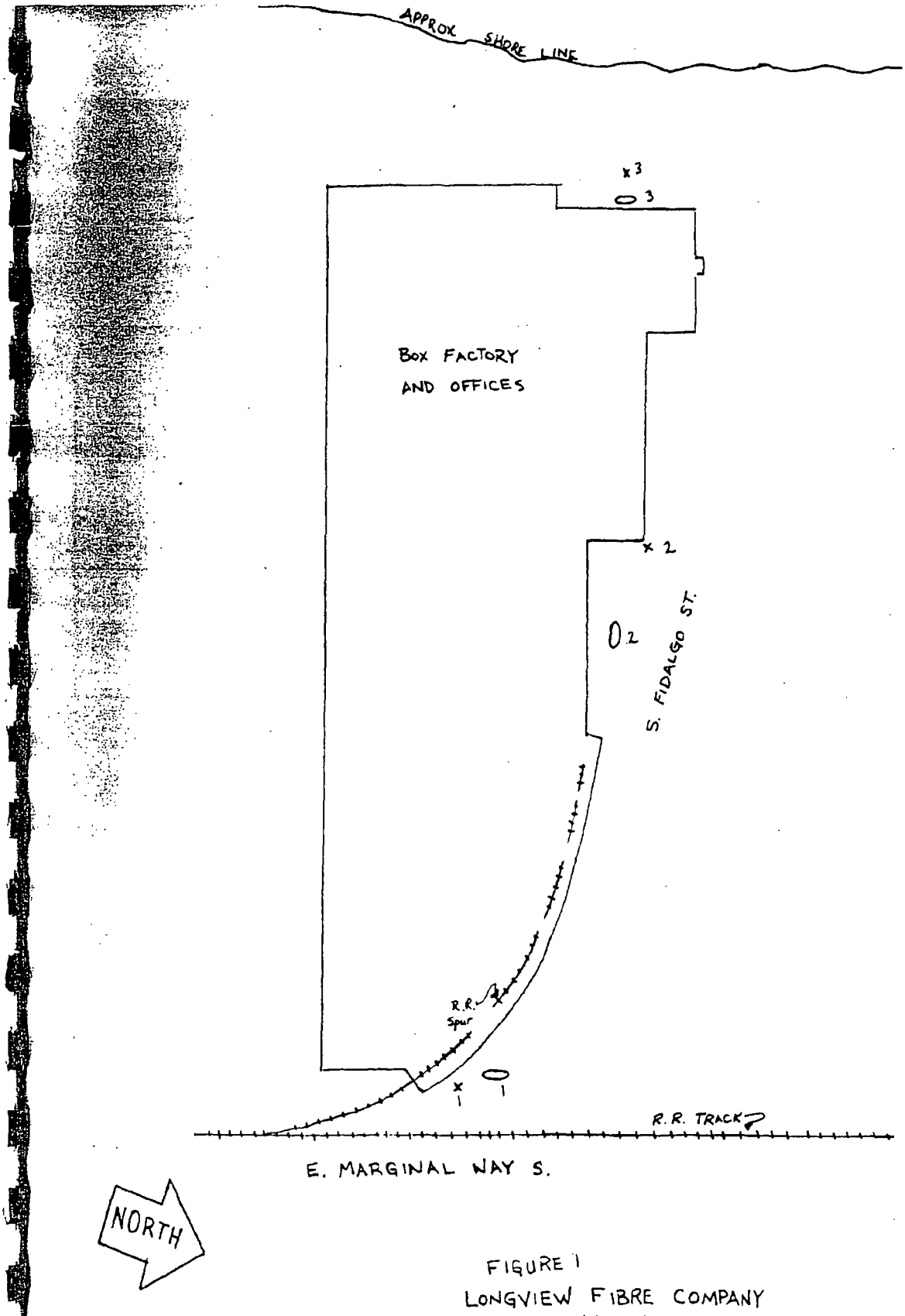

FIGURE 1
LONGVIEW FIBRE COMPANY
SEATTLE, WASHINGTON
SITE PLAN WITH APPROXIMATE TANK AND WELL LOCATIONS

KEY:
O FORMER TANK LOCATION
X WELL LOCATION

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SR#: 10709913 PAGE ____ OF ____ COC # 0110

PROJECT NAME: SEATTLE GROUNDWATER / WASTEWATER
PROJECT NUMBER:
PROJECT MANAGER: LARRY GENTILE
COMPANY/ADDRESS: LONGVIEW FIBRE PAPER & PKG. INC.
5701 EAST MARGINAL Way So
CITY/STATE/ZIP: SEATTLE, WA. 98134
E-MAIL ADDRESS: lgentile@longfibre.com
PHONE: 206-762-7170 FAX: 206-767-2412
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Diesel☐ Oil☐	☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐	REMARKS
NORTH PARKING LOT	10/22/07	3:45P			1			1												
WEST PARKING LOT	10/22/07	3:30P			1			1												
DECANT #1	10/22/07	11:12A			1									1						TEST FOR Cu & Zn

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # ____
Bill To: ____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 10/23/07 0430	Date/Time: 10/24/07 1000	Date/Time:	Date/Time:
Printed Name: GENTILE	Printed Name:	Printed Name:	Printed Name:
Firm: LFPI	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

LFC002083

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC (4)

Client / Project: Longview Fibre Service Request K07 0991 3

Received: 10/24/17 Opened: 10/24/17 By: DLeL

1. Samples were received via? US Mail Fed Ex UPS (DHL) GH GS PDX Courier Hand Delivered
2. Samples were received in: (circle) ~~Cooler~~ Box Envelope Other _____ NA
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1-Sided
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Is shipper's air-bill filed? If not, record air-bill number: _____ NA (Y) N

Hard

5. Temperature of cooler(s) upon receipt (°C): 3.6
   Temperature Blank (°C): 5.0
6. If applicable List Chain of Custody Numbers:
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Packing material used: Inserts (Bubble Wrap) (Gel Packs) Wet Ice Sleeves Other _____
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate in the table below* (Y) N
12. Were the correct types of bottles used for the tests indicated? NA (Y) N
13. Were all of the preserved bottles received at the lab with the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials and 1631 Mercury bottles checked for absence of air bubbles? *Indicate in the table below.* (NA) Y N
15. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? (NA) Y N
16. Was Cl2/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broken	pH	Reagent	Volume added	Reagent Lot Number	Initials

Additional Notes, Discrepancies, & Resolutions: _____

0011

Page 1 of: 1 2

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Paper & Packaging Inc
Project Name : Seattle Groundwater/Wastewater
Project No. : NA

Service Request : K0709913

Sample Name :	Lab Code :
Decant #1	K0709913-003
Method Blank	K0709913-MB

Comments:

Approved By: _____ Date: 10/31/07

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Paper & Packaging Inc	**Service Request :**	K0709913
Project Name :	Seattle Groundwater/Wastewater	**Date Collected :**	10/22/07
Project No. :	NA	**Date Received :**	10/24/07
Matrix :	Water	**Date Extracted :**	10/26/07

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	10/30/07	10/30/07
Sample Name	**Lab Code**		
Decant #1	K0709913-003	221	184
Method Blank	K0709913-MB	ND	ND

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0709913
Project:	Seattle Groundwater/Wastewater	**Date Collected:**	10/22/2007
Sample Matrix:	Water	**Date Received:**	10/24/2007

Diesel and Residual Range Organics

Sample Name:	North Parking Lot	**Units:**	ug/L
Lab Code:	K0709913-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	2300	Y	300	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	1800	L	590	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	110	50-150	10/27/07	Acceptable
n-Triacontane	116	50-150	10/27/07	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0709913
Project:	Seattle Groundwater/Wastewater	**Date Collected:**	10/22/2007
Sample Matrix:	Water	**Date Received:**	10/24/2007

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K0709913-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	*20000*	Y	320	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	**4700**	L	630	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	120	50-150	10/27/07	Acceptable
n-Triacontane	138	50-150	10/27/07	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0709913
Project:	Seattle Groundwater/Wastewater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0711656-3	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	ND	U	500	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	107	50-150	10/27/07	Acceptable
n-Triacontane	126	50-150	10/27/07	Acceptable

Comments:

CHAIN OF CUSTODY

SR#:_____

Columbia Analytical Services INC.
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PAGE _____ OF _____ COC #_____

PROJECT NAME: SEATTLE GRAIN/WATER/WASTEWATER
PROJECT NUMBER:
PROJECT MANAGER: LARRY GENTILE
COMPANY/ADDRESS: LONGVIEW FIBRE PAPER & PKG. INC.
5901 EAST MARGINAL WAY S
CITY/STATE/ZIP: SEATTLE, WA. 98134
E-MAIL ADDRESS: lgentile@longfibre.com
PHONE #: 206-762-7170 FAX#: 206-767-2442
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) 8021☐ BTEX☐ 8015☐ ☐ Fuel Fingerprint (FIO) Diesel (FIO) Oil (FIO) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	Hex-Chrom☐	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
NORTH PARKING LOT	10/22/07	3:45P			1			1																	
WEST PARKING LOT	10/22/07	3:30P			1			1																	
DECANT #1	10/22/07	11:12A			1									1											TEST FOR Cu + Zn

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature	Signature	Signature
Date/Time: 10/23/07 0930	Date/Time	Date/Time	Date/Time
Printed Name: GENTILE	Printed Name	Printed Name	Printed Name
Firm: LFPI	Firm	Firm	Firm

RCOC #1 06/03

LFC002090

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services INC
An Employee - Owned Company

October 20, 2006 Service Request No: K0608374

Mike Anderson
Longview Fibre Paper & Packaging Inc
5901 East Marginal Way South
Seattle, WA 98124

RE: Seattle Groundwater

Dear Mike:

Enclosed are the results of the sample(s) submitted to our laboratory on September 29, 2006. For your reference, these analyses have been assigned our service request number K0608374.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291. You may also contact me via Email at EWallace@kelso.caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/lmb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

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SR#: 16608374

PAGE _____ OF _____ COC #_____

PROJECT NAME: Seattle Ground Water
PROJECT NUMBER:
PROJECT MANAGER: Mike Anderson
COMPANY/ADDRESS: Longview Fibre Paper & Packaging, 5901 East Marginal Way South
CITY/STATE/ZIP: Seattle WA 98134
E-MAIL ADDRESS: manderson@longfibre.com
PHONE: (206) 762-7170 FAX: (206) 767-2442
SAMPLERS SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) 8021☐ BTEX☐ ☐ Fuel Fingerprint (FIQ) Diesel☐ Oil☐ ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
North parking Lot	9/26/06	6:35pm			1			1																	
West parking Lot		6:40pm			1			1																	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
X 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results
_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature / Date/Time	Signature / Date/Time 9/27/06	Signature / Date/Time 1000	Signature / Date/Time
Printed Name / Firm	Printed Name / Firm	Printed Name / Firm	Printed Name / Firm

RCOC #1 06/03

LFC002094

Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form

PC 40

Project/Client LV paper Packaging Service Request K06 08374

Cooler received on 9/28/06 and opened on 9/29/06 by A. Jurell

RUSH

1. Were custody seals on outside of cooler? (Y) N
   If yes, how many and where? F, B
2. Were custody seals intact? (Y) N
3. Were signature and date present on the custody seals? (Y) N
4. Is the shipper's airbill available and filed? If no, record airbill number: (Y) N
5. COC#

Temperature of cooler(s) upon receipt: (°C)	14.1			
Temperature Blank: (°C)	13.6			

   Were samples hand delivered on the same day as collection? Y (N)
6. Were custody papers properly filled out (ink, signed, etc.)? 1 COC not signed Y (N)
7. Type of packing material present thaw warm gel pks, sleeves
8. Did all bottles arrive in good condition (unbroken)? (Y) N
9. Were all bottle labels complete (i.e analysis, preservation, etc.)? (Y) N
10. Did all bottle labels and tags agree with custody papers? Y (N)
11. Were the correct types of bottles used for the tests indicated? (Y) N
12. Were all of the preserved bottles received at the lab with the appropriate pH? (Y) N
13. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
14. Were the 1631 Mercury bottles checked for absence of air bubbles, and if present, noted below? ~~Y~~ N
15. Did the bottles originate from CAS/K or a branch laboratory? (Y) + (N)
16. Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection? ~~Y~~ N
17. Was C12/Res negative? ~~Y~~ N

Explain any discrepancies: Added "Roof drain" time of 1510 to COC. Did not Rec. COC for Sludge Samples

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

00005

LFC002095

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0608374
Project:	Seattle Groundwater	**Date Collected:**	09/26/2006
Sample Matrix:	Water	**Date Received:**	09/29/2006

Diesel and Residual Range Organics

Sample Name:	North Parking Lot	**Units:**	ug/L
Lab Code:	K0608374-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**2200**	Y	250	1	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	**2200**	O	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	79	50-150	10/10/06	Acceptable
n-Triacontane	84	50-150	10/10/06	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0608374
Project:	Seattle Groundwater	**Date Collected:**	09/26/2006
Sample Matrix:	Water	**Date Received:**	09/29/2006

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K0608374-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**30000**	DY	1300	5	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	**4600**	O	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	92	50-150	10/10/06	Acceptable
n-Triacontane	87	50-150	10/10/06	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0608374
Project:	Seattle Groundwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0616956-3	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	ND	U	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	94	50-150	10/10/06	Acceptable
n-Triacontane	100	50-150	10/10/06	Acceptable

Comments:

CAS Kelso 1317 S. 13th Avenue, P.O. Box 479, Kelso, WA 98626

Columbia Analytical Services inc.
An Employee-Owned Company

Date: 10/12/06
Number of pages including cover sheet: 3

To: Mike Anderson
From: ED WALLACE

Phone:
Fax phone: 206-767-2442
CC:

Phone: (360) 577-7222
Fax phone: (360) 636-1068

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Groundwater Data

IMPORTANT NOTE:

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Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0608374
Project:	Seattle Groundwater	**Date Collected:**	09/26/2006
Sample Matrix:	Water	**Date Received:**	09/29/2006

Diesel and Residual Range Organics

Sample Name:	North Parking Lot	**Units:**	ug/L
Lab Code:	K0608374-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	2200	Y	250	1	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	2200	O	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	79	50-150	10/10/06	Acceptable
n-Triacontane	84	50-150	10/10/06	Acceptable

Comments: PRELIMINARY - JMM 10/11/06

Client:	Longview Fibre Paper & Packaging Inc	**Service Request:**	K0608374
Project:	Seattle Groundwater	**Date Collected:**	09/26/2006
Sample Matrix:	Water	**Date Received:**	09/29/2006

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K0608374-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	30000	DY	1300	5	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	4600	O	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	92	50-150	10/10/06	Acceptable
n-Triacontane	87	50-150	10/10/06	Acceptable

Comments: PRELIM - PENDING

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

September 8, 2005 Service Request No: K0503515

Mike Anderson
Longview Fibre Company
5901 East Marginal Way South
Seattle, WA 98124

RE: Seattle Groundwater

Dear Mike:

Enclosed are the results of the sample(s) submitted to our laboratory on August 31, 2005. For your reference, these analyses have been assigned our service request number K0503515.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	*The MRL/MDL has been elevated due to a matrix interference.*
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	*The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.*
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Longview Fibre Company	**Service Request No.:**	K0503515
Project:	Seattle Groundwater	**Date Received:**	8/31/05
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/31/05. The following discrepancies were noted upon initial sample inspection. The samples were received at 16.1 °C, which was above the upper control limit of 6.0 °C. Since this was the only sample and the analytes are not affected by temperature, testing was commenced. The exceptions are also noted on the cooler receipt and preservation form included in this data package. Otherwise, the samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Diesel Range Organics by NWTPH-Dx

Surrogate Exceptions:
The control criteria were exceeded for the surrogate o-Terphenyl in sample West Parking due to chromatographic matrix interferences. The surrogate peak was not adequately resolved from complex hydrocarbon background. No further corrective action was appropriate.

Elevated Method Reporting Limits:
Sample West Parking required dilutions due to elevated levels of Diesel Range Organics and Residual Range Organics. The reporting limits are adjusted to reflect the dilutions.

Approved by _____ **Date** 9/8/05

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K0503515
Project:	Seattle Groundwater	**Date Collected:**	08/29/2005
Sample Matrix:	Water	**Date Received:**	08/31/2005

Diesel and Residual Range Organics

Sample Name:	North Parking Lot	**Units:**	ug/L
Lab Code:	K0503515-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	1300	H	250	1	09/01/05	09/05/05	KWG0515184	
Residual Range Organics (RRO)	3000	O	500	1	09/01/05	09/05/05	KWG0515184	

Surrogate Name	%Rec	Control Limits	Date Analyzed	*Note*
o-Terphenyl	103	50-150	09/05/05	Acceptable
n-Triacontane	107	50-150	09/05/05	Acceptable

Comments:

Client:	Longview Fibre Company	**Service Request:**	K0503515
Project:	Seattle Groundwater	**Date Collected:**	08/29/2005
Sample Matrix:	Water	**Date Received:**	08/31/2005

Diesel and Residual Range Organics

Sample Name:	West Parking	**Units:**	ug/L
Lab Code:	K0503515-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	260000	DY	13000	50	09/01/05	09/06/05	KWG0515184	
Residual Range Organics (RRO)	34000	DO	5000	10	09/01/05	09/05/05	KWG0515184	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	184	50-150	09/05/05	Outside Control Limits
n-Triacontane	129	50-150	09/05/05	Acceptable

Comments:

000 6

Client:	Longview Fibre Company	**Service Request:**	K0503515
Project:	Seattle Groundwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0515184-4	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	09/01/05	09/05/05	KWG0515184	
Residual Range Organics (RRO)	ND	U	500	1	09/01/05	09/05/05	KWG0515184	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	112	50-150	09/05/05	Acceptable
n-Triacontane	118	50-150	09/05/05	Acceptable

Comments:

000 7

CHAIN OF CUSTODY

SR#: K050515

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PAGE _____ OF _____ COC #_____

PROJECT NAME: Seattle ground water
PROJECT NUMBER:
PROJECT MANAGER: Mike Anderson
COMPANY/ADDRESS: 3400 East Marginal Way South
Longview Fibre Co
CITY/STATE/ZIP: Seattle WA 98134
E-MAIL ADDRESS: manderson@longfibre.com
PHONE: (206) 762-7170 FAX: (206) 767-2442
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Diesel☐ Oil☐ Fuel Fingerprint (FIQ)☐ NW-HCID Screen☐ Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
North parking lot	8/29/05	5:30 pm			1			1																
West parking lot	8/29/05	5:30 pm			1			1																

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
X Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature	Signature
Date/Time: 8/29/05 5:30pm	Date/Time: 8/30/05 1230	Date/Time	Date/Time
Printed Name: Mike Anderson	Printed Name: [illegible]	Printed Name	Printed Name
Firm: Longview Fibre Co	Firm: CAS	Firm	Firm

RCOC #1 06/03

LFC002109

Columbia Analytical Services Inc. PC Edl
Cooler Receipt and Preservation Form

Project/Client Fibre Work Order K05 5575-

Cooler received on 3/31/05 and opened on 3/31/05 by A. Jewell

1.	Were custody seals on outside of coolers? If yes, how many and where? 1 each side	(Y)	N
2.	Were custody seals intact?	(Y)	N
3.	Were signature and date present on the custody seals?	(Y)	N
4.	Is the shipper's airbill available and filed? If no, record airbill number: 881845571204	Y	N
5.	COC#		
	Temperature of cooler(s) upon receipt: (°C)	18.3	
	Temperature Blank: (°C)	16.1	
	Were samples hand delivered on the same day as collection?	~~Y~~	~~N~~
6.	Were custody papers properly filled out (ink, signed, etc.)?	(Y)	N
7.	Type of packing material present Bubble pks, sleeves		
8.	**Did all bottles arrive in good condition (unbroken)?**	(Y)	N
9.	Were all bottle labels complete (i.e analysis, preservation, etc.)?	(Y)	N
10.	Did all bottle labels and tags agree with custody papers?	(Y)	N
11.	**Were the correct types of bottles used for the tests indicated?**	(Y)	N
12.	Were all of the preserved bottles received at the lab with the appropriate pH?	(Y)	N
13.	Were VOA vials checked for absence of air bubbles, and if present, noted below?	~~Y~~	~~N~~
14.	Did the bottles originate from CAS/K or a branch laboratory?	(Y)	N
15.	**Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	~~Y~~	~~N~~
16.	Was C12/Res negative?	~~Y~~	~~N~~

Explain any discrepancies:

RESOLUTION: OK to Test Only Samples Emm 8/31

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

090.9

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

September 30, 2004 Service Request No: K2406828

Mike Anderson
Longview Fibre Company
End of Fibre Way
P.O. Box 639
Longview, WA 98632

RE: Seattle Ground Water

Dear Mike:

Enclosed are the results of the rush sample(s) submitted to our laboratory on September 8, 2004. For your reference, these analyses have been assigned our service request number K2406828.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/jeb

cc: Hank Rakoz, Longview Fibre

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

RUSH

Columbia Analytical Services Inc.
Cooler Receipt and Preservation Form

PC ED

Project/Client LV FIBRE Work Order K240 6828

Cooler received on 9/8/07 and opened on 9/8/07 by

1.	Were custody seals on outside of coolers?	(Y)	N
	If yes, how many and where? 2 S		
2.	Were custody seals intact?	(Y)	N
3.	Were signature and date present on the custody seals?	(Y)	N
4.	Is the shipper's airbill available and filed? If no, record airbill number: 1Z 903 466 01 1000 7249	Y	(N)
5.	COC#		
	Temperature of cooler(s) upon receipt: (°C)	2.2	
	Temperature Blank: (°C)	6.3	
	Were samples hand delivered on the same day as collection?	~~Y~~	~~N~~
6.	Were custody papers properly filled out (ink, signed, etc.)?	(Y)	N
7.	Type of packing material present Bubble, MRK		
8.	**Did all bottles arrive in good condition (unbroken)?**	(Y)	N
9.	Were all bottle labels complete (i.e analysis, preservation, etc.)?	(Y)	N
10.	Did all bottle labels and tags agree with custody papers?	(Y)	N
11.	**Were the correct types of bottles used for the tests indicated?**	(Y)	N
12.	Were all of the preserved bottles received at the lab with the appropriate pH?	~~Y~~	~~N~~
13.	Were VOA vials checked for absence of air bubbles, and if present, noted below?	~~Y~~	~~N~~
14.	Did the bottles originate from CAS/K or a branch laboratory?	(Y)	N
15.	**Are CWA Microbiology samples received with >1/2 the 24hr. hold time remaining from collection?**	~~Y~~	~~N~~
16.	Was C12/Res negative?	Y	N

Explain any discrepancies:

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

00068

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: K3400820

PAGE 1 OF 1 COC #

PROJECT NAME: Seattle ground water
PROJECT NUMBER:
PROJECT MANAGER: Mike Anderson
COMPANY/ADDRESS: Longview Fibre Co 5901 East Marginal Way South Seattle WA 98134
PHONE: (206) 762-7170 FAX #: (206) 767-2442
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☒ Oil☒	BTEX☐ 8021☐	☐Fuel Fingerprint (FIQ) ☐NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐	1664 SGT☐	PCB's Aroclors☐	Congeners☐	Pesticides/Herbicides 608☐	8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐	PCP☐	PAHS 8310☐	SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH; Cond., Cl, SO_4, PO_4, F, NO_2, NO_3; BOD, TSS; TDS (circle)	NH_3-N; COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐	AOX 1650☐	506☐					REMARKS
North parking lot	9/7/04	3:45pm						✓																										
West parking lot	9/7/04	3:52pm						✓																										

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
X 5 Day
___ Standard (10-15 working days)
X Provide FAX Results
9/15/04 Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature: A. Juell	Signature	Signature
Date/Time: 9/7/04 3:55pm	Date/Time: 9/8/04 1030	Date/Time	Date/Time
Printed Name: Mike Anderson	Printed Name: Juell	Printed Name	Printed Name
Firm: Longview Fibre	Firm: CAS	Firm	Firm

RCOC #1 04/02

LFC002115

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K2406828
Project:	Seattle Ground Water	**Date Collected:**	09/07/2004
Sample Matrix:	Water	**Date Received:**	09/08/2004

Diesel and Residual Range Organics

Sample Name:	North Parking Lot	**Units:**	ug/L
Lab Code:	K2406828-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	1800	H	320	1	09/09/04	09/11/04	KWG0413613	
Residual Range Organics (RRO)	5300	O	630	1	09/09/04	09/11/04	KWG0413613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	101	50-150	09/11/04	Acceptable
n-Triacontane	107	50-150	09/11/04	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K2406828
Project:	Seattle Ground Water	**Date Collected:**	09/07/2004
Sample Matrix:	Water	**Date Received:**	09/08/2004

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K2406828-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	23000	DY	2600	10	09/09/04	09/29/04	KWG0413613	
Residual Range Organics (RRO)	4800	O	520	1	09/09/04	09/11/04	KWG0413613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	105	50-150	09/11/04	Acceptable
n-Triacontane	94	50-150	09/11/04	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K2406828
Project:	Seattle Ground Water	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0413613-3	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	09/09/04	09/10/04	KWG0413613	
Residual Range Organics (RRO)	ND	U	500	1	09/09/04	09/10/04	KWG0413613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	96	50-150	09/10/04	Acceptable
n-Triacontane	88	50-150	09/10/04	Acceptable

Comments:

cc - n/c B

LONGVIEW FIBRE COMPANY
MAIN OFFICE AND MILLS, LONGVIEW, WASHINGTON 98632
1-206-425-1550

September 26, 1990

Mr. Gary Smith, Plant Manager
Longview Fibre Company
Western Container Division
P.O. Box 24867
Seattle, WA 98124

Dear Gary:

Enclosed you will find the test results for the starch sludge and ink sludge samples sent to us by your plant in August. I am sorry it has taken so long to get these results back to you.

As you can see, the results are very good. They found very little of anything in these sludges. The TCLP extract method is the newest EPA method for determining whether a waste is hazardous or not. It is a very tough standard to meet. We also ran pH and BOD here in our lab. The BOD numbers were very high but you would expect this from concentrated sludge. The pH of the starch sludge is also rather high. It looks to me that these materials could go into the sanitary sewer system with lots of water to help dilute them down. If you are pumping these sludges into trucks they could be dumped into a sewage treatment plant. You might also be able to take the dewatered sludges to a landfill although I would not if it could be avoided. Anything put into a landfill can later come back to haunt you if the landfill becomes a "superfund" site.

We would like you to send us samples in the future, anytime you clean your sumps or at least once per year. We will keep the results on file here and send you copies. If we can be of further help, please give me a call.

Sincerely,

David N. Mendenhall
Water Quality Engineer

DNM:eh
Enclosure

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: Longview Fibre Company
SUBMITTED BY: Dave Mendenhall
PROJECT: Seattle Box Plant
SAMPLE DESCRIPTION: Sludge

DATE RECEIVED: 08/31/90
DATE TCLP PERFORMED: 09/13/90
DATE ANALYZED: 09/17/90
WORK ORDER #: K903142

TCLP Extract
EPA Method 1311
Metals
mg/L (ppm)

Sample Name:				Starch Sludge #1	Ink Sludge #2
Lab Code:				3142-1	3142-2
Parameters	Analysis Methods	MRL	Regulatory Limit*		
Arsenic	6010	0.1	5.0	ND	ND
Barium	6010	0.01	100	0.05	7.07
Cadmium	6010	0.01	1.0	0.02	ND
Chromium	6010	0.01	5.0	0.01	ND
Lead	6010	0.05	5.0	0.08	ND
Mercury	7470	0.001	0.2	ND	ND
Selenium	6010	0.1	1.0	ND	ND
Silver	6010	0.01	5.0	ND	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit

* From 40 CFR Part 261, et. al.

Approved by Colin Elliott Date 9/25/90

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636 1068

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: Longview Fibre Company
SUBMITTED BY: Dave Mendenhall
PROJECT: Seattle Box Plant
SAMPLE DESCRIPTION: Sludge

DATE RECEIVED: 08/31/90
DATE TCLP PERFORMED: 09/13/90
DATE EXTRACTED: 09/15/90
DATE ANALYZED: 09/18/90
WORK ORDER #: K903142

TCLP Extract
EPA Method 1311
Semi-Volatile Organic Analytes
mg/L (ppm)

Sample Name:				Starch Sludge #1	Ink Sludge #2
Lab Code:				3142-1	3142-2
Parameters	Analysis Methods	MRL	Regulatory Limit*		
Hexachloroethane	3510/8015M	0.05	3	ND	0.07
Nitrobenzene	3510/8015M	0.05	2	ND	ND
Hexachlorobutadiene	3510/8015M	0.05	0.5	ND	ND
2,4-Dinitrotoluene	3510/8015M	0.05	0.13	ND	ND
Hexachlorobenzene	3510/8015M	0.05	0.13	ND	ND
2,4,6-Trichlorophenol	3510/8040	0.05	2	ND	ND
2,4,5-Trichlorophenol	3510/8040	0.05	400	ND	ND
Pentachlorophenol	3510/8040	0.1	100	ND	ND
Pyridine	3510/8015M	0.05	5	ND	ND
o-Cresol	3510/8040	0.05	200	ND	ND
m-Cresol	3510/8040	0.05	200	ND	ND
p-Cresol	3510/8040	0.05	200	ND	ND
Total Cresols	3510/8040	0.05	200	ND	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit
M means Modified Method

* From 40 CFR Part 261, et. al.

Approved by Colin Elliott Date 9/25/90

317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-1068

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: Longview Fibre Company
SUBMITTED BY: Dave Mendenhall
PROJECT: Seattle Box Plant
SAMPLE DESCRIPTION: Sludge

DATE RECEIVED: 08/31/90
DATE TCLP PERFORMED: 09/06/90
DATE ANALYZED: 09/08/90
WORK ORDER #: K903142

TCLP Extract
EPA Method 1311 *
Volatile Organic Analytes
mg/L (ppm)

Sample Name:				Starch Sludge #1	Ink Sludge #2
Lab Code:				3142-1	3142-2
Parameters	Analysis Methods	MRL	Regulatory Limit**		
Benzene	8020	0.01	0.5	ND	ND
Carbon Tetrachloride	8010	0.01	0.5	ND	ND
Chlorobenzene	8010	0.01	100	ND	ND
Chloroform	8010	0.01	6	ND	ND
1,4-Dichlorobenzene	8010	0.01	7.5	ND	ND
1,2-Dichloroethane	8010	0.01	0.5	ND	ND
1,1-Dichloroethylene	8010	0.01	0.7	ND	ND
Methyl Ethyl Ketone	8020	0.1	200	ND	ND
Tetrachloroethylene	8010	0.01	0.7	ND	ND
Trichloroethylene	8010	0.01	0.5	ND	ND
Vinyl Chloride	8010	0.01	0.2	ND	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit

* TCLP Extraction utilized zero headspace extractor.
** From 40 CFR Part 261, et. al.

Approved by Glen Elliott Date 9/25/90

South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-1068

LFCo. LAB SERVICE MEMORANDUM

No. 8492

Date: 08/28/90

SUBJECT: Analysis of Sludges from the Seattle Bay Plant

Keywords: Sludge

Work Requested by: Dave Mendenhall Work Performed by: Dwayne Lehn, J. Springer

Source and Description of Sample: Two samples from the Seattle Bay Plant,
(1) Sludge from the Starch silo sump. (starch)
(2) Sludge from the Flexo sump (ink)

Analytical or Experimental Procedure: COD on starch sludge & BOD determined by J. Springer PH by meter metals- Sample dried (25ml) in crucibles, ignited @ 600°C to ash. The ash processed per Kiesh method for recovered metals which were determined using the Jr. model 457

RESULTS:

Sample	Starch Sludge	Ink Sludge
PH	11.65	7.09
BOD	62,542	156,000
COD		
PPM Cr	2.73	4.55
Cu	328.0	244.0
Pb	1.52	11.22

F3035-1

Petroleum Reclaiming Service, Inc.
3003 Taylor Way, Tacoma, Washington 98421
Tacoma: (206) 383-4474 Seattle: (206) 587-6206

GENERATOR'S WASTE PROFILE SHEET

PROFILE NO.

1. GENERAL INFORMATION

Generator Name: LONGVIEW FIBER		Generator U.S. EPA ID: EXEMPT	
Facility Address: 5901 EAST MARGINAL WAY S. SEATTLE, WASHINGTON 98124	Billing Address: PROTECTIVE ENVIRONMENTAL 3801 7TH AVE SOUTH SEATTLE, WASHINGTON 98108		
Technical Contact: JIM MANTELL	Title: MAINTENANCE	Phone: (206) 762-7170	
Business Contact: JIM RAYMOND	Title: GENERAL MANAGER	Phone: (206) 624-9643	

2. WASTE PRODUCT DESCRIPTION & CHARACTERISTICS

Waste Product Name: SUMP SLUDGES

Process Generating Waste: CLEANING OF SUMP

Physical State At 70°F	Free Liquids at 70°F.	Flash Point	Layers
☐ Solid ☑ Sludge ☐ Liquid ☐ Powder	☑ Yes ☐ No Volume 2	☐ 70°F ☐ ___140°F. ☐ Closed Cup ☐ 70°F. - 100°F. ☐ No Flash ☐ Open Cup ☐ 101°F. - 139°F ☐ Exact	☐ Multilayered ☐ Bi-Layered ☐ Homogenous

pH	Solids	Density (Sp. G.)	Odor	Color
☐ 2 ☐ 10.1 - 12 ☐ 2 - 4 ☐ 12 ☑ 4.1 - 10 ☐ Exact ___	☑ By Volume Total 98 % Dissolved ___ % Suspended ___ %	☐ Liquid lbs./gal. ☐ Solid lbs./ft³	☐ None ☐ Strong ☑ Mild Describe ___	Color: BROWN

C CHEMICAL COMPOSITION (TOTALS MUST ADD TO 100%)

SUMP SLUDGES	%
WATER (H2O)	%
	%
	%
	%
	%
	%
	%
	%
	%
	%

D METALS ☐ TOTAL (PPM) ☐ EPA EXTRACTION PROCEDURE (mg/L)

ARSENIC (As)		SELENIUM (Se)	
BARIUM (Ba)		SILVER (Ag)	
CADMIUM (Cd)		COPPER (Cu)	
CHROMIUM (Cr)		NICKEL (Ni)	
MERCURY (Hg)		ZINC (Zn)	
LEAD (Pb)		THALLIUM (Tl)	
CHROMIUM - HEX (Cr - 6)			

E OTHER COMPONENTS - TOTAL (PPM)

CYANIDES		PCB'S	
SULFIDES		PHENOLICS	

F SHIPPING INFORMATION

D.O.T. HAZARDOUS MATERIAL? ☐ YES ☑ NO

PROPER SHIPPING NAME: NON RCRA WASTE SLUDGES

HAZARD CLASS: ___ I.D. NO.: ___ P.G.: ___

METHOD OF SHIPMENT: ☐ BULK LIQUID ☐ BULK SOLID ☑ DRUM TYPE/SIZE: 55 GAL 17H

ANTICIPATED VOLUME: 300 GALS. ___ CUBIC YARDS ___ OTHER: ___

PER: ☐ ONE TIME ☐ WEEK ☐ MONTH ☐ QUARTER ☑ YEAR ☐ ___

G HAZARDOUS CHARACTERISTICS

REACTIVITY: ☑ NONE ☐ PYROPHORIC ☐ SHOCK SENSITIVE ☐ EXPLOSIVE ☐ WATER REACTIVE ☐ OTHER: ___

OTHER HAZARDOUS CHARACTERISTICS: ☑ NONE ☐ RADIOACTIVE ☐ ETIOLOGICAL ☐ PESTICIDE MANUFACTURING WASTE ☐ OTHER: ___

USEPA HAZARDOUS WASTE? ☐ YES ☑ NO

USEPA HAZARDOUS CODE(S): ___

STATE HAZARDOUS WASTE? ☐ YES ☑ NO

STATE CODE(S): ___

H SPECIAL HANDLING INFORMATION

☐ ADDITIONAL PAGE(S) ATTACHED

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS COMPLETE AND ACCURATE, AND THAT ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED.

AUTHORIZED SIGNATURE: James R Mantell TITLE: Environmental Coordinator DATE: 9/29/96

TOTAL P.02

LFC002124

LFCo. Lab Service Memorandum No. 9884

Date: 09 July 1996

Subject: TCLP Metals in Boxplant Waste Samples

Keywords: Ink, TCLP

Work Requested by: Steve Frase (SE-7) **Work Performed by:** Dwayne Van

Source and Description of Sample:
6 ink waste samples from the Seattle boxplant, and 2 samples from the Spanish Fork boxplant.

Analytical Methods and Procedures:
TCLP was determined for each sample using EPA method 1311.

LAB RESULTS:

5 Trigger 10x Trigger 5ppm Trigger Hg Trigger

	ppm Cr	ppm Cu	ppm Pb	ppm Zn
SEATTLE 6/11				
#3 Flexo - not running	.036	1.161	.170	.286
#4 Flexo	.085	.061	.214	.525
#5 Flexo	.089	.257	.187	.050
#7 Flexo	.058	.073	.211	.495
Bobst Diecut	.072	.673	.374	.636
151 Press	.080	1.860	.175	.358
Spanish Fork 6/11				
Ink Sump	.032	.088	.413	.467
Starch Sump	.077	.048	.251	1.054

No problem with these heavy metals & E-7
7/23/96

OIL RECOVERY SERVICE
OIL SERVICES COLLECTION

REVISED: 06/24/9
RUN: 06/25/9

ACCEPT FOR SHIPMENT

CONTROL #: 1713897-8
LAB #: 6069713897-9
SURVEY #: 1066235

BRANCH/SUBMITTER: 118101
SEATTLE

GENERATOR INFORMATION: CUSTOMER NUMBER: 1181-01-7274

LONGVIEW FIBRE
5901 MARGINAL WAY SO
SEATTLE, WA 98134

ATTN: KIM ARMSTRONG

BRANCH: 118101 - SEATTLE

GENERAL DESCRIPTION: PIT SLUDGE/H20
NATURE OF BUSINESS: CARDBOARD S.I.C.: STATUS: SQG
FEDERAL EPA ID: WAD009282161 STATE ID(S):
FACILITY ADDRESS: BILLING ADDRESS:
5901 MARGINAL WAY SO
SEATTLE, WA 98134
PROCESS DESCRIPTION: WASH INK ROLLERS
GENERATION AMOUNT: 200 GALLONS YEARLY PART#:
P.O. #: SE706033 DATE SURVEY SIGNED: 06/06/97
CONTACT: KIM ARMSTRONG TITLE: MAINTENANCE CLERK PHN: 206-762-7170
SURVEY COMMENTS:
REQUEST BULK PICK UP WITH VAC-SERVICE WASTE WATER & SLUDGE.

Regular. $303.00 per drum
Discount $272.00 per drum.

*** ACCEPT FOR SHIPMENT

CONTINUED ON NEXT PA

VAL RECOVERY SERVICE — MANIFEST INFORMATION — RUN: 06/25/97
LONGVIEW FIBRE CO
CONTROL #: 1713897-8
SAMPLE #: 1066235

REQUIRED MANIFEST FORM: GN

SAFETY-KLEEN CORP. PROVIDES THIS MANIFESTING INFORMATION FOR INSTRUCTIONAL PURPOSES ONLY. ALL THE INFORMATION IS BELIEVED TO BE ACCURATE, BUT IS KNOWN TO BE INCOMPLETE. FEDERAL AND STATE REGULATIONS AND THE INSTRUCTIONS ON THE MANIFEST FORM SHOULD BE CONSULTED FOR COMPLETE INFORMATION. IN ADDITION, CERTAIN VARIATIONS MAY BE ALLOWED BY REGULATIONS, BUT NEED TO BE APPROVED BY A SAFETY-KLEEN REPRESENTATIVE PRIOR TO SHIPMENT.

UNIFORM HAZARDOUS WASTE MANIFEST	1. GENERATORS US EPA NO.	DOCUMENT NO.	2. PAGE	UNDERLINED AREAS ARE REQUIRED
	WAD009282161		1	

3. GENERATOR NAME AND MAILING ADDRESS

LONGVIEW FIBRE CO
5901 E MARGINAL WAY

SEATTLE WA 98134

4. GENERATOR PHONE 206 762 7170

A. STATE MANIFEST DOCUMENT NO

B. STATE GENERATOR ID

5. TRANSPORTER 1 CO NAME: SAFETY-KLEEN CORP.
6. US EPA ID NO: ILD984908202
C. ST TRANS ID
D. TRANSPORTER PHONE 206939202

7. TRANSPORTER 2 CO NAME
8. US EPA ID NO
E. ST TRANS ID
F. TRANSPORTER PHONE

9. FACILITY NAME AND SITE ADDRESS
10. US EPA ID NUMBER
G. FACILITY STATE ID

SAFETY-KLEEN CORP.
3700 LAGRANGE ROAD KYD053348108
SMITHFIELD KY 40068

H. FACILITY PHONE 502 845 2453

11. US DOT DESCRIPTION	CONTAINER	I. WASTE NO
A. HM. WASH WATER (NOT USDOT OR USEPA HAZARDOUS MATERIAL)		N/A

J. ADDITIONAL DESCRIPTION FOR THE MATERIALS LISTED ABOVE

K. HANDLING CODE

15. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

EMERGENCY RESP#800-468-1760(24 HR). IF UNDELIVERABLE, RETURN TO GENERATOR.

OIL RECOVERY SERVICE
LONGVIEW FIBRE CO

MANIFEST INFORMATION

RUN: 06/25/97
CONTROL #: 1713897-8
SAMPLE #: 1066235

REQUIRED MANIFEST FORM: TX

SAFETY-KLEEN CORP. PROVIDES THIS MANIFESTING INFORMATION FOR INSTRUCTIONA PURPOSES ONLY. ALL THE INFORMATION IS BELIEVED TO BE ACCURATE, BUT IS KNOWN TO BE INCOMPLETE. FEDERAL AND STATE REGULATIONS AND THE INSTRUCTIONS ON THE MANIFEST FORM SHOULD BE CONSULTED FOR COMPLETE INFORMATION. IN ADDITION, CERTAIN VARIATIONS MAY BE ALLOWED BY REGULATIONS, BUT NEED TO BE APPROVED BY A SAFETY-KLEEN REPRESENTATIVE PRIOR TO SHIPMENT.

UNIFORM HAZARDOUS WASTE MANIFEST	1. GENERATORS US EPA NO.	DOCUMENT NO.	2. PAGE	UNDERLINED AREA: ARE REQUIRED
	WAD009282161		1	

3. GENERATOR NAME AND MAILING ADDRESS

LONGVIEW FIBRE CO
5901 E MARGINAL WAY

SEATTLE WA 98134

4. GENERATOR PHONE 206 762 7170

A. STATE MANIFEST DOCUMENT NI

PREPRINTED ON FORM

B. STATE GENERATOR ID

99953

5. TRANSPORTER 1 CO NAME: SAFETY-KLEEN CORP.
6. US EPA ID NO: ILD984908202
C. ST TRANS ID
D. TRANSPORTER PHONE 206939202

7. TRANSPORTER 2 CO NAME
8. US EPA ID NO
E. ST TRANS ID
F. TRANSPORTER PHONE

9. FACILITY NAME AND SITE ADDRESS
10. US EPA ID NUMBER
G. FACILITY STATE I

SAFETY-KLEEN CORP.
1722 COOPER CREEK ROAD
DENTON, TX 76208
TXD077603371

65124

H. FACILITY PHONE
940 383 2611

11. US DOT DESCRIPTION	CONTAINER	I. WASTE NO
A. HM. WASH WATER (NOT USDOT OR USEPA HAZARDOUS MATERIAL)		N/ OUTS1011

J. ADDITIONAL DESCRIPTION FOR THE MATERIALS LISTED ABOVE

K. HANDLING CODE

15. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

EMERGENCY RESP#800-468-1760(24 HR). IF UNDELIVERABLE, RETURN TO GENERATOR.

OIL RECOVERY SERVICE
OIL SERVICES COLLECTION

REVISED: 06/24/9
RUN: 06/25/9

ACCEPT FOR SHIPMENT

BRANCH/SUBMITTER: 118101
SEATTLE

CONTROL #: 1713897-8
LAB #: 6069713897-9
SURVEY #: 1066235

CORPORATE REVIEW:
DISPOSITION: ACCEPT FOR SHIP PART NUMBER: 0087174 WASTE,WATER 55-1
REVIEW DATE: 06/24/1997 REVIEWERS: DRM KAW

APPROVED FACILITIES:

	SAFETY-KLEEN CORP. 1722 COOPER CREEK ROAD DENTON, TX 76208	SAFETY-KLEEN CORP. 3700 LAGRANGE ROAD SMITHFIELD, KY 40068
FED EPA#:	TXD077603371	KYD053348108
STATE EPA#:	65124	
TELEPHONE:	9403832611	5028452453
STATE AUTH:		

APPROVED DOT - SHIPPING DESCRIPTION
0005469 DRUM OR BULK WASH WATER
(NOT USDOT OR USEPA HAZARDOUS MATERIAL)

STATE/PROV. CODES: TX OUTS1011
US EPA WASTE CODES: NONE
USA

REVIEW COMMENTS:

****

* PROPER SHIPPING DESCRIPTION WAS BASED ON THIS SINGLE ANALYSIS. GENERATOR
* MUST CERTIFY THAT SHIPMENT IS NOT HAZARDOUS. PER COMPANY POLICY, FRS
* CUSTOMERS MUST COMPLETE GENERATOR CERTIFICATION WITH EACH SHIPMENT
* AND BRANCH WILL FILE IN CUSTOMER RECORDS.
*
* OK FOR WASTE WATER FUEL. WASTE SHIPPED IN DRUMS FROM THE CUSTOMERS SITE
* NEED TO BE EQUIPPED WITH A BUNG ON THE TOP LID PRIOR TO SHIPMENT. DRUMS
* RECEIVED FROM THE CUSTOMER LACKING BUNGS WILL BE RETURNED TO THE CUSTOMER BY
* THE SK TSDF.
*
* THIS WASTE STREAM HAS BEEN REVIEWED FOR RECEIPT AT THE DOLTON RECYCLE CENTER
* AND IS NOT APPROVED FOR THIS FACILITY AT THIS TIME.
*
* A GENERATOR WASTE DETERMINATION CERTIFICATION FORM FOR USEPA NON-HAZARDOUS
* WASTE APPROVAL HAS BEEN RECEIVED.
*
* THIS WASTE IS NOT FOR SAFETY-KLEEN VACUUM SERVICES AT THIS TIME.
*
* WATER/INK SLUDGE IS NOT FOR VAC SERVICES. KAW 6/24/97
* GENERAL COMMENTS:KF(A)=65.2
* ANALYTICAL COMMENTS:WATER ESTIMATED BY DIFFERENCE
* CAUSTIC COAGULATION: PASS

****

THIS SERVES AS NOTICE PER FEDERAL AND STATE REGULATIONS THAT EACH FACILITY
NOTED ABOVE HAS THE APPROPRIATE PERMITS, CAPABILITIES, CAPACITY; AND IS
WILLING TO ACCEPT THE MATERIAL AS DESCRIBED IN THE APPROVAL SECTION.
IT IS THE RESPONSIBILITY OF THE GENERATOR TO NOTIFY SAFETY-KLEEN CORP. OF
ANY CHANGES IN THE PROCESS GENERATING THIS WASTE STREAM.

CONTINUED ON NEXT PAC

OIL SE[illegible]ES COLLECTION

COMPLETED: 06/24/9
REVISED: 06/24/9
RUN: 06/25/9

ACCEPT FOR SHIPMENT

CONTROL #: 1713897-8
LAB #: 6069713897-9
SURVEY #: 1066235

BRANCH/SUBMITTER: 118101
SEATTLE

GENERAL ANALYSIS OF TOTAL SAMPLE

COLOR	:	DK GRAY, LT GRAY		
WATER CONTENT	:	69.0 WT%		
NON-VOLATILE RESIDUE	:	31.0 WT%	DESCRIPTION:	SOLID
FLAMMABILITY	:	NO FLASH AT 73 F	BY SETAFLASH	
FLAMMABILITY	:	NO FLASH AT 140 F	BY SETAFLASH	
PH	:	DIRECT BY METER	7.1	
RADIOACTIVITY	:	NONE DETECTED		

COMMENTS: H20 COMP: COMP;NVR@200: SOLID, 26

FUEL EVALUATION OF TOTAL SAMPLE

HEAT CONTENT	:	959 BTU/LB	ASH UPON COMBUSTION	:	17.0 WT%
TOTAL BROMINE	BR: <	0.1 WT%	TOTAL FLUORINE	F : <	0.1 WT%
TOTAL SULFUR	S : <	0.1 WT%	TOTAL CHLORINE	CL: <	0.1 WT%

COMMENTS: FLASH @ 200: N;CHLORIDE: 0.048;

METALS CONTENT OF TOTAL SAMPLE (PPM): DIGEST BY: ICP

ZINC	ZN:	16	THALLIUM		TL: <	13	
TITANIUM	TI:	180	SELENIUM	(D010)	SE: <	8.7	
ANTIMONY	SB: <	6.5	LEAD	(D008)	PB:	2.2	
PHOSPHORUS	P :	57	NICKEL		NI:	1.9	
MAGNESIUM	MG:	270	MERCURY	(D009)	HG: <	4.3	
IRON	FE:	930	COPPER		CU:	110	
CHROMIUM (D007)	CR:	1.3	CADMIUM	(D006)	CD: <	1.3	
BERYLLIUM	BE: <	0.8	BARIUM	(D005)	BA:	350	
ARSENIC (D004)	AS: <	4.3	SILVER	(D011)	AG: <	0.4	

GENERAL COMPOSITION:	COMPOSITION BY:	APPEARANCE (VOL%)	TOTA (WT%
AQUEOUS PHASE (FREE WATER)		80.0	80.
ORGANIC PHASE (FEEDSTOCK)		0.0	0.
BOTTOM SLUDGE (SEMISOLIDS)		10.0	10.
BOTTOM SOLID (SETTLED SOLIDS)		10.0	10.
TOTAL		100.0	100.

TOTAL PHASE SPECIFIC GRAVITY: VISCOSITY (CENTIPOISE):
BOTTOM SLUDGE SPECIFIC GRAVITY: VISCOSITY (CENTIPOISE): > 50000 CP

SPECIFIC COMPOSITION OF TOTAL SAMPLE	COMPOSITION OF:	TOTAL SAMPLE (WT%)	TOTAL SAMPLE (WT%)
WATER CONTENT		69.0	69.0
NON-VOLATILE RESIDUE	DESCRIPTION: SOLID	31.0	31.0
VOLATILE ORGANICS BY DIFFERENCE		0.0	0.0
TOTAL		100.0	100.0

*** ACCEPT FOR SHIPMENT

CONTINUED ON NEXT PAG

OIL SERVICES COLLECTION

COMPLETED: 06/24/9
REVISED: 06/24/9
RUN: 06/25/9

ACCEPT FOR SHIPMENT

BRANCH/SUBMITTER: 118101
SEATTLE

CONTROL #: 1713897-8
LAB #: 6069713897-9
SURVEY #: 1066235

VOLATILE ORGANIC COMPOSITION OF TOTAL SAMPLE BY GAS CHROMATOGRAPHY
SAMPLE PREPARATION METHODS: CS2-EXTRACT
DETECTION METHODS : FID, FID

COMPOUND NAME	COMPOSITION OF:	VOLATILE ORGANICS (WT%)	TOTAL SAMPLE (WT%
TRACES OF VOLATILE ORGANICS DETECTED CODE: TR CAS NUMBER:	((1.0% EACH)	100.0	0.(
TOTAL		100.0	0.(

SPECIFIC ORGANIC COMPOSITION
POLYCHLORINATED BIPHENYLS (PCBS): NONE DETECTED (

LABORATORY REVIEW: A SEG CODE: REVIEWERS: XXX XXX LAB: SK TECHNICAL CT
RELEASED: 06/24/97 ANALYZED: 06/23/97 SUBMITTED: 06/10/97

THE ANALYSIS CONTAINED HEREIN ARE PERFORMED SOLELY FOR THE PURPOSE OF QUALIFYING THE ANALYZED MATERIALS FOR ACCEPTANCE BY SAFETY-KLEEN CORP. IN ACCORDANCE WITH ITS PERMITS AND PROCESSING CAPABILITIES.

R E V I S I O N N O T E S ** (06/24/97) **
LINE BUSINESS FROM:24
TO:28
SMPL NAME FROM:LONGVIEW FIBRE CO
TO:LONGVIEW FIBRE
NATURE BUSINESS FROM:CAROBOARD BOX MFG
TO:CARDBOARD
FAC ADDR LINE 1 FROM:5901 E MARGINAL WAY
TO:5901 MARGINAL WAY SO

R E V I S I O N N O T E S ** (06/24/97) **
GENERAL DESC FROM:PIT SLUDGE, WATER
TO:PIT SLUDGE/H20
GENERATN AMOUNT FROM:000000200 G Q
TO:000000200 G Y
COMMENT UPDATED FROM
REQUEST BULK PICK UP WITH VAC-SERVICE, WASTE WATER & SLUDGE

R E V I S I O N N O T E S ** (06/24/97) **
MANUAL COMMENT UPDATED FROM
AUTOMATED COMMENTS
AUTOMATED COMMENTS

NOTICE OF LAND DISPOSAL RESTRICTION OF WASTE IS NOT REQUIRED.

*** ACCEPT FOR SHIPMENT

END OF DOCUMEN

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Sonny Bivins
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2109499. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 3 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (il01)
24-DEC-01 09:28

Service Req. No.	K2109499	Project No.		Bottles: 2 - 500 ml Amber
Client No.	125855	Project Name	Longview Fibre Seattle	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Sonny Bivins 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LV039801 L	Site ID		
Logged In By	APAYNTER	Project Chemist	Ed Wallace	
ISR Num				
COC Received	Y			
Samples Submitted	21-DEC-01			Storage: HERK B4

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	FIQ8015
K2109499-001	North Loading Dock	WATER	16:15 17-DEC-01	07-JAN-02	I
K2109499-002	West Parking Lot	WATER	16:00 17-DEC-01	07-JAN-02	I

Comments:

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Subject: Seattle Beckart Sludge Sample
Date: Fri, 20 Dec 2002 09:46:02 -0800
From: "Frase, Stephen E" <sefrase@longfibre.com> **Internal**
To: "Mantell James R." <jrmantell@longfibre.com>

Jim
Attached is a Word file (11497.doc) containing the results of a Seattle Beckart sample tested early this month. The metals percentages are based on the ash weight. For this sample, the ash weight times 19.32 equals the as taken sample weight. Thus the percentages of respective total metals on an "as taken" sample basis are the table values divided by 19.32. The highest concentration of any metal, in this case copper, is only 0.0636% based on the "as taken" sample. All metals concentrations are low and are not a concern. Steve

11497.doc	**Name:** 11497.doc **Type:** Microsoft Word Document (application/msword) **Encoding:** base64

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (ilO1)
30-DEC-02 10:15

Service Req. No.	K2209290	Project No.		Bottles: 2 - 500 ml Amber
Client No.	125855	Project Name	Seattle Ground Water	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Jim Wantell 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LV040784 L	Site ID		
Logged In By	TBLACK	Project Chemist	Ed Wallace	
ISR Num				
COC Received	Y			
Samples Submitted	27-DEC-02			Storage: SAM 5

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate DX-NWTPH
K2209290-001	North Loading Dock	WATER	16:10 23-DEC-02	13-JAN-03 I
K2209290-002	West Parking Lot	WATER	15:55 23-DEC-02	13-JAN-03 I

Comments:

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

LFCo. Lab Service Memorandum No. 11600

Date: 08 MAY 2003

Subject: Seattle Box Plant Water Treatment Cake Sample

Keywords: Total metals, Seattle box plant cake, percent solids, percent LOI

Requested by: Dave Mendenhall **Performed by:** C. Roulette

Source and Description of Sample:

One sample of Press Cake from Seattle Box Plant water treatment, was brought to the lab for analysis on 5/05/03.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Total Metals were calculated using the Dry weight.

Results:

	Press Cake
% Solids	51.84
% LOI	85.98
% by Weight Barium	0.018
% by Weight Chromium	0
% by Weight Copper	0.299
% by Weight Lead	0
% by Weight Zinc	0.107

Lab Book No. 279
Page 76

LFCo. Lab Service Memorandum

No. 11497

Date: 06 DEC 2002

Subject: Seattle Beckart Sludge Sample

Keywords: Total metals, beckart sludge, percent solids, percent LOI

Requested by: Steve Frase, Dave Mendenhall

Performed by: Colleen Roulette

Source and Description of Sample:

One sample of Beckart Sludge from Seattle, was brought to the lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 850°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals.

Results:

	Ink Sludge
% Solids	44.11
% LOI	88.06
% by Weight Barium	0.333
% by Weight Chromium	0.002
% by Weight Copper	1.229
% by Weight Lead	0.024
% by Weight Zinc	0.250

Lab Book No. 279
Page 62

LFCo. Lab Service Memorandum

No. 11465

Date: 11 OCT 02

Subject: Seattle Box Plant Sludge

Keywords: Total metals, Seattle box plant sludge, percent solids, percent LOI

Requested by: Steve Frase **Performed by:** C. Roulette

Source and Description of Sample:

One sample of sludge from Seattle Box Plant was brought to the project lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 850°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Metals were calculated using the ash weight.

Results:

	Ink Sludge
% Solids	50.31
% LOI	90.40
% by Wt. Barium	0.270
% by Wt. Chromium	0.0
% by Wt. Copper	0.999
% by Wt. Lead	0.005
% by Weight Zinc	0.204

LFCo. Lab Service Memorandum

No. 11315

Date: 07 JAN 02

Subject: Analysis of Sludge Sample from Seattle's Water Treatment Plant

Keywords: Sludge, Total metals, TCLP, Solids, LOI

Requested by: Dave Mendenhall **Performed by:** Colleen Roulette

Source and Description of Sample:

One sample of sludge from Seattle's water treatment plant was delivered to the Project Lab for determination of metals, Solids, and LOI.

Analytical Methods and Procedures:

Total Metals were determined using the NIOSH method for recoverable metals, reported as % by weight. TCLP was determined using the EPA method No. 1311. Solids were determined by drying the sample in a 105°C oven overnight. LOI was determined by ashing the dry solids at 850°C.

Results:

SAMPLE	Seattle Sludge
% Solids	43.6
% LOI	87.61
% Barium	.009
% Chromium	.002
% Copper	.045
% Lead	.002
% Zinc	.075
ppm Barium	5.36
ppm Chromium	0.27
ppm Copper	12.33
ppm Lead	0.31
ppm Zinc	39.7

LFCo. Lab Service Memorandum

No. 11235

Date: 16 Aug. 01

Subject: Heavy Meals in Boxplant Wastewater Treatment Samples

Keywords: as Title

Requested by: Dave Mendenhall **Performed by:** Dwayne Van

Source and Description of Sample:

A sample of dewatering filter cake was received from the Seattle boxplant and a sample of treated water from the Oakland boxplant.

Analytical Methods and Procedures:

TCLP was determined for each sample using EPA method no. 1311.

Results:

Sample	Seattle	Oakland
ppm Chromium	0.118	0.095
ppm Copper	4.677	3.441
ppm Lead	10.015	0.0
ppm Zinc	2.952	0.404

LFCo. Lab Service Memorandum

No. 11199

Date: 01 June 01

Subject: TCLP of Seattle Boxplant Dewatering Sludge

Keywords: TCLP, boxplant waste

Work requested by: Dave Mendenhall **Work Performed by:** Dwayne Van

Source and Description of Sample:

Sample of dewatering system cake from the Seattle boxplant.

Analytical Methods and Procedures:

TCLP was determined by EPA method no. 1311.

Results:

ppm Chromium	0.036
ppm Copper	3.912
ppm Lead	0.083
ppm Zinc	3.515

LFCo. Lab Service Memorandum **No.** 10780

Date: 22 Oct. 99

Subject: TCLP on Seattle Boxplant Sludge

Keywords: as Title

Requested by: Dave Mendenhall **Performed by:** Dwayne Van

Source and Description of Sample:

One grab sample of Seattle boxplant dewatered sludge taken 10/13/99.

Analytical Methods and Procedures:

TCLP was determined using EPA method no. 1311. Results reported as ppm.

Results:

ppm Chromium	0.363
ppm Copper	ND
ppm Lead	ND
ppm Zinc	1.539

Columbia Analytical Services, Inc.

May 2, 1995 Service Request No.: K9502215

Sonny Bivin
Longview Fibre Company
5901 E. Marginal Ways
Seattle, WA 98124

Dear Sonny:

Enclosed are the results of the sample(s) submitted to our laboratory on April 13, 1995. For your reference, these analyses have been assigned our service request number K9502215.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 230.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eileen M. Arnold
Project Chemist

EMA/sam

cc: Dave Mendenhall/Longview Fibre
Hank Rakoz/Longview Fibre

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-1068

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

00002

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9502215
Project:	NA	**Date Collected:**	4/12/95
Sample Matrix:	Water	**Date Received:**	4/13/95
		Date Extracted:	NA

Inorganic Parameters
Units: mg/L (ppm)

Analyte:	pH (units)	Biochemical Oxygen *Demand* (5-Day)	Chemical Oxygen *Demand* (COD)	Solids, Total *Suspended* (TSS)	Total Organic *Carbon* (TOC)
EPA Method:	150.1	405.1	410.2	160.2	415.1
Method Reporting Limit:	-	4	5	5	0.5
Date Analyzed:	4/13/95	4/14/95	4/24/95	4/19/95	4/20/95
Sample Name **Lab Code**					
#1 K9502215-001	7.06	4	72	18	16.4
Method Blank K9502215-MB	-	-	ND	ND	ND

Approved By: _____ Date: 4/27/95

5A5MJ120294

02215WET.KY1 - 5Tctr 4/27/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9502215
Project:	NA	**Date Collected:**	4/12/95
Sample Matrix:	Water	**Date Received:**	4/13/95
		Date Extracted:	4/18/95

Total Metals
Units: µg/L (ppb)

			Sample Name:	#1	Method Blank
			Lab Code:	K9502215-001	K9502215-MB
			Date Analyzed:	4/24/95	4/24/95
Analyte	**EPA Method**	**MRL**			
Antimony	6010A	50		ND	ND
Arsenic	7060	5		ND	ND
Beryllium	6010A	5		ND	ND
Cadmium	6010A	3		ND	ND
Chromium	6010A	5		ND	ND
Copper	6010A	10		39	ND
Iron	6010A	20		612	ND
Lead	7421	2		7	ND
Manganese	6010A	5		60	ND
Mercury	7470	0.5		ND	ND
Nickel	6010A	20		ND	ND
Selenium	7740	5		ND	ND
Silver	6010A	10		ND	ND
Vanadium	6010A	10		ND	ND
Thallium	7841	5		ND	ND
Zinc	6010A	10		133	ND

Approved By: _____ Date: 4/27/95

3S30EPA/102094
02215ICP.WM1 - Sample 4/27/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9502215
Project:	NA	**Date Collected:**	4/12/95
Sample Matrix:	Water	**Date Received:**	4/13/95
		Date Extracted:	4/24/95
		Date Analyzed:	4/25/95

Oil and Grease
EPA Method 413.1
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
#1	K9502215-001	1	3
Method Blank	K950424-WB	1	ND

Approved By: _____ Date: 4/26/95

1AMRL/102594
02215PHC.PM1 - 413w/ 4/25/95

LFCo. LAB SERVICE MEMORANDUM No. 9583

Date: 05/05/95

SUBJECT: TCLP Metals Content of Box Plant Waste Sludges

Keywords: As Title

Work Requested by: D. Mendenhall Work Performed by: Dwayne Van

Source and Description of Sample: 4 Samples of Sump Sludges received from the Seattle Box Plant.

Analytical or Experimental Procedure: TCLP was determined for each Sample by EPA Method 1311

RESULTS: mg/l

	Cr	Cu	Pb	Zn
151 Printer-Slotter	.024	.562	.157	7.25
183 Flexo	0	.192	.124	2.89
185 Flexo	.002	.732	.027	0.96
187 Flexo	0	.145	.137	3.74

F3035-1

Columbia Analytical Services, Inc.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1317 South 13th Ave. • Kelso, WA 98626 • (206) 577-7222 • (800) 695-7222 • FAX (206) 636-1068 DATE 4-12-95 PAGE _____ OF _____

PROJECT NAME _____ #_____

PROJECT MANAGER Longview Fibre

COMPANY/ADDRESS 5901 E. Marginal Way S. Seattle, WA. 98124

PHONE 206-762-1200

SAMPLERS SIGNATURE Jennifer Bevins

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	ANALYSIS REQUESTED	REMARKS
#1	4/12	1:00pm	K2215-1	water	10	Metals ☐ VOA ☐ Semi Vest VOA ☐ Herb ☐ Metals (total or dissolved) List Below ☐ X; pH, Cond, Cl, SO_4, PO_4, F, Br, NO_2, NO_3 (circle) X; NH3-N, COD (circle) X; Total-P, TKN, TOC; Total Organic Halides (TOX) 9020 ☐ (AOX) 1650A ☐ X TSS, BOD X O&G	

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature: Lori K. Hahn
Printed Name: Lori K. Hahn
Firm: CAS
Date/Time: 4-13-95 11:00

TURNAROUND REQUIREMENTS
___ 24 hr ___ 48 hr. ___ 5 day
X Standard (10-15 working days)
___ Provide Verbal Preliminary Results
___ Provide FAX preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X I. Routine Report
___ II. Report (includes DUP.MS. MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ IV. CLP Deliverable Report

INVOICE INFORMATION:
P.O.# _____
Bill To _____

SAMPLE RECEIPT:
Shipping VIA: _____
Shipping #: _____
Condition: _____
Lab No: K95-2215

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

SPECIAL INSTRUCTIONS/COMMENTS:
Metals = ~~Co Zn Fe Mn As Pb Cd Cr~~
Priority Pollutants + Zn Fe, Mn
EMA 4/13/95

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

400-05

LFC002149

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services INC
An Employee - Owned Company

October 2, 2003 Service Request No: K2307137

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on September 16, 2003. For your reference, these analyses have been assigned our service request number K2307137.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

cc: Hank Rakoz, Longview Fibre, Longview, WA

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

000092

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

000003

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Company
Project Name : Seattle Water Treatment
Project No. : NA

Service Request : K2307137

Sample Name :	Lab Code :
#1 9-12-03	K2307137-001
#2 9-12-03	K2307137-002
Method Blank	K2307137-MB

Comments:

000004

Approved By: _____ Date: 9/30/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Company	**Service Request :**	K2307137
Project Name :	Seattle Water Treatment	**Date Collected :**	09/12/03
Project No. :	NA	**Date Received :**	09/16/03
Matrix :	Water	**Date Extracted :**	09/26/03

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	20
	Date Analyzed:	09/30/03	09/30/03
Sample Name	**Lab Code**		
#1 9-12-03	K2307137-001	4440	50
#2 9-12-03	K2307137-002	4490	48
Method Blank	K2307137-MB	ND	ND

Comments:

000035

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

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SR#: K2307137

PAGE 1 OF 1 COC #

PROJECT NAME: SEATTLE WATER TREATMENT
PROJECT NUMBER:
PROJECT MANAGER: Jim Mantell
COMPANY/ADDRESS: Longview Fibre Co. 5901 E Marginal Way S
CITY/STATE/ZIP: Seattle WA, 98134
E-MAIL ADDRESS: JBMantell@LongFibre.com
PHONE #: 206-762-7170 FAX#: 206-767-2442
SAMPLER'S SIGNATURE: James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐	Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics Tri ☐ Tetra ☐ 8151M PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐					REMARKS
1 9-12-03	9/12	8:20 PM											✓												
2 9-12-03	9/12	8:30 PM											✓												

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: James R Mantell	Signature: Ramesh Menon	Signature:	Signature:
Date/Time: 9/12/03 9:00 PM	Date/Time: 9-16-03 1002	Date/Time:	Date/Time:
Printed Name: Jim Mantell	Printed Name: Ramesh Menon	Printed Name:	Printed Name:
Firm: Longview Fibre Co.	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

LFC002155

UPS

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

Project/Client Longview Fibre Work Order K23 7137.

Cooler received on 9-16-03 and opened on 9-16-03 by DW

1.	Were custody seals on outside of cooler? If yes, how many and where? 1 Front	(Y)	N
2.	Were seals intact and signature & date correct?	(Y)	N
3.	Is the shipper's airbill available and filed? If no, record airbill number:	Y	N
4.	COC #		
	Temperature of cooler(s) upon receipt: 18.5		
	Temperature Blank: 18.2		
5.	Were custody papers properly filled out (ink, signed, etc.)?	(Y)	N
6.	Type of packing material present gel packs (thawed)		
7.	Did all bottles arrive in good condition (unbroken)?	(Y)	N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(Y)	N
9.	Did all bottle labels and tags agree with custody papers?	(Y)	N
10.	Were the correct types of bottles used for the tests indicated?	(Y)	N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?	(Y)	N
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?	~~Y~~	~~N~~
13.	Did the bottles originate from CAS/K or a branch laboratory?	(Y)	N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?	~~Y~~	~~N~~
15.	Was Cl2/Res negative?	~~Y~~	~~N~~

Explain any discrepancies: _____

RESOLUTION: OK to test ehw 9/18/03

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
					033037	

CRFREV.DOC3/5/2003


UPS Ground
1Z 903 466 03 1004 060 5
TRACKING NUMBER

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

September 11, 2003 Service Request No: K2306511

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on August 28, 2003. For your reference, these analyses have been assigned our service request number K2306511.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL, but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Company
Project Name : Seattle Water Treatment
Project No. : NA

Service Request : K2306511

Sample Name :	Lab Code :
#1 8-26-03	K2306511-001
#2 8-26-03	K2306511-002
Method Blank	K2306511-MB

Comments:

00004

Approved By: _____ Date: 9/10/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Company	**Service Request :**	K2306511
Project Name :	Seattle Water Treatment	**Date Collected :**	08/26/03
Project No. :	NA	**Date Received :**	08/28/03
Matrix :	Water	**Date Extracted :**	09/04/03

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	09/09/03	09/09/03
Sample Name	**Lab Code**		
#1 8-26-03	K2306511-001	12100	1040
#2 8-26-03	K2306511-002	12300	1040
Method Blank	K2306511-MB	ND	ND

Comments:

00005

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

SR#: K23D6511

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

PAGE _____ OF _____ COC # _____

PROJECT NAME	SEATTLE WATER TREATMENT
PROJECT NUMBER	
PROJECT MANAGER	Jim MANTELL
COMPANY/ADDRESS	LONG-VIEW FIBRE CO. 5701 E. MARGINAL WAY S.
CITY/STATE/ZIP	SEATTLE WA 98134
E-MAIL ADDRESS	JRMANTELL@LONGFIBRE.COM
PHONE #	206 762-7170
FAX#	206-767-2442
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
#1 8-26-03	8/26	7:50 PM			1	
#2 8-26-03	8/26	8:00 PM			1	

Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐
Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐
Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐
☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen
Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐
PCB's Aroclors ☐ Congeners ☐
Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐
Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐
PAHS 8310 ☐ SIM ☐
Metals, Total or Dissolved (See list below)
Cyanide ☐ Hex-Chrom ☐
pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3
TOX 9020 ☐ AOX 1650 ☐ 506 ☐

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS: Limit is 3.0 ppm Cu

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: Amanda Sturell	Signature:	Signature:
Date/Time: 8-26-03 10:00 PM	Date/Time: 8/28/03 1610	Date/Time:	Date/Time:
Printed Name: Jim MANTELL	Printed Name: Sturell	Printed Name:	Printed Name:
Firm: FIBRE CO.	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

LFC002163

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

Project/Client Longview Fibre Work Order K23 6511

Cooler received on 8/28/03 and opened on 8/28/03 by KM.

1.	Were custody seals on outside of cooler? If yes, how many and where?	Y (N)
2.	Were seals intact and signature & date correct?	Y (N)
3.	Is the shipper's airbill available and filed? If no, record airbill number: UPS	(Y) N
4.	COC #	
	Temperature of cooler(s) upon receipt: 2.0	
	Temperature Blank: —	
5.	Were custody papers properly filled out (ink, signed, etc.)?	(Y) N
6.	Type of packing material present. gel ice.	
7.	Did all bottles arrive in good condition (unbroken)?	(Y) N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(Y) N
9.	Did all bottle labels and tags agree with custody papers?	(Y) N
10.	Were the correct types of bottles used for the tests indicated?	(Y) N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?	Y (N)
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?	~~Y N~~
13.	Did the bottles originate from CAS/K or a branch laboratory?	(Y) N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?	~~Y N~~
15.	Was Cl2/Res negative?	~~Y N~~

Explain any discrepancies: Client puts total + Dissolved metals on COC. As per previous SRS & Bottles rec'd, Analysis are total metals.

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
#2	HNO3	1ml.	K40023	500 Red.	—	

00007

CRFREV.DOC3/5/2003

300 Fibre Way
Longview, WA 98632
Phone: 360-575-5570
Fax: 360-575-6110

Longview Fibre Company

Fax

To:	Jim Mantell	**From:**	dnmendenhall
Fax:	206-767-2442	**Date:**	November 4, 2003
Phone:		**Pages:**	2
Re:	Samples	**CC:**	

☐ **Urgent** x **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Jim- results from the samples you sent to me, on the copper levels from the Beckart. As you can see, not a lot of difference between the samples.

Dave

LFCo. Lab Service Memorandum

No. 11708

Date: 03 NOV 2003

Subject: Seattle Box Plant Water Treatment

Keywords: Copper, Seattle Box Plant, water treatment

Requested by: Dave Mendenhall **Performed by:** Marvin Martin

Source and Description of Sample:

Four grab samples (below water level), dated 10/22/03, from Seattle Box Plant Water Treatment, labeled 1 through 4, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

The samples were run on the Unicam 969 AA Spectrometer for analysis of Copper.

Results:

	#1	#2	#3	#4
Date	10/22/03	10/22/03	10/22/03	10/22/03
Time	8:30	9:30	10:45	11:40
ppm Copper	9.31	8.11	8.09	7.79

Lab Book No. 307
Page No. 8

Dave M.

Had 2 bad weeks involving water returned to the sewer system. However, 42520 total gallons for 1 month is not bad.

As you are aware, the copper tests so far do not look good. We are waiting for several more results to return and then must make a determination as to what we will do at our treatment center. Most likely, we will have to go the route Oakland did.

Tom

Equipment Number C3-752200

Water Treatment System

Work Order Number 73220

Doc Type WO Expensed Work Orders

Order Type D Maint. & Repair WO

Description **Treated water discharge meter**

Symptoms **WEEKLY TREATED WATER DISCHARGED FOR OCTOBER**

Branch	320	Seattle Box Plant	Equip Type	240	Plant General
Process	064	Box Plant Misc Buildings	Equip. Subtype		
Equip. Status	ANY	Anytime Work	C. C. 8		
Dept Assigned	010	Maintenance	C. C. 9		
WO Type	GM	General Maintenance	C.C. 10		
Manager	9870	Seattle Box Maintenance	Status	MN	Complete WO
Supervisor	3070	Perantie, Eric	Priority	3	Medium
Primary Tech	3070	Perantie, Eric	Business Unit		332350
Secondary Tech			Parent W.O. No		00073220
Originator	3070	Perantie, Eric	Estimated Hours		
Est Start Date	09/26/03	Commit Date	Est End Date	11/03/03	Actual End Date 10/31/03

.....Media Object .....

Meter installed and online 9-16-03

Treated water discharge meter readings for October 03

10-2-03 2890 gals. 11560

10-10-03 14,450 gals. Crews did 8hrs of clean up on all of the flexos

10-17-03 26,280 gals. Instructions to supervisors and operators to use water save 11830

10-24-03 34,140 gals 7860

10-31-03 42,520 gals. 8380

LFCo. Lab Service Memorandum

No. 11708

Date: 03 NOV 2003

Subject: Seattle Box Plant Water Treatment

Keywords: Copper, Seattle Box Plant, water treatment

Requested by: Dave Mendenhall **Performed by:** Marvin Martin

Source and Description of Sample:

Four grab samples (below water level), dated 10/22/03, from Seattle Box Plant Water Treatment, labeled 1 through 4, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

The samples were run on the Unicam 969 AA Spectrometer for analysis of Copper.

Results:

	#1	#2	#3	#4
Date	10/22/03	10/22/03	10/22/03	10/22/03
Time	8:30	9:30	10:45	11:40
ppm Copper	9.31	8.11	8.09	7.79

Lab Book No. 307
Page No. 8

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

August 19, 2003 Service Request No: K2305650

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on August 1, 2003. For your reference, these analyses have been assigned our service request number K2305650.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

cc: Hank Rakoz, Longview Fibre
Dave Mendenhall, Longview Fibre

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Company
Project Name : Seattle Water Treatment
Project No. : NA

Service Request : K2305650

Sample Name :	Lab Code :
#1	K2305650-001
#2	K2305650-002
Method Blank	K2305650-MB

Comments:

00004

Approved By: _____ Date: 6/14/05

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Company	**Service Request :**	K2305650
Project Name :	Seattle Water Treatment	**Date Collected :**	07/31/03
Project No. :	NA	**Date Received :**	08/01/03
Matrix :	Water	**Date Extracted :**	08/06/03

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	08/13/03	08/13/03
Sample Name	**Lab Code**		
#1	K2305650-001	4150	19
#2	K2305650-002	4130	20
Method Blank	K2305650-MB	ND	ND

Comments:

00005

Columbia Analytical Services, Inc.
An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: K2305650

PAGE _____ OF _____ COC # _____

PROJECT NAME	SEATTLE WATER TREATMENT
PROJECT NUMBER	
PROJECT MANAGER	Jim MANTELL
COMPANY/ADDRESS	LONGVIEW FIBRE CO
	5901 N. MARGINAL WAY S
CITY/STATE/ZIP	SEATTLE WA 98134
E-MAIL ADDRESS	JRMANTELL@LONGFIBRE.COM
PHONE #	206-762-7170
FAX #	206-767-2442
SAMPLER'S SIGNATURE	James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ 8021☐ BTEX☐ Diesel☐ Oil☐	☐Fuel Fingerprint (FIO) ☐NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	Hex-Chrom☐	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
#1	7/31/03	2:15PM	1												✓									
#2	7/31/03	2:20PM	2												✓									

0006

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. Data Validation Report (includes all raw data)

___ IV. CLP Deliverable Report

___ V. EDD

INVOICE INFORMATION

P.O. # _____

Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.

____ 5 Day

____ Standard (10-15 working days)

____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
7/31/03	2345PM	8/1/03	1700				
Jim Mantell	Longview Fibre	H Wynn	CAS				
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

RCOC #1 06/03

LFC002175

Cooler Receipt And Preservation Form

Project/Client LV Water Co. Work Order K23 5650

Cooler received on 8-1-03 and opened on 8-1-03 by A. Snell

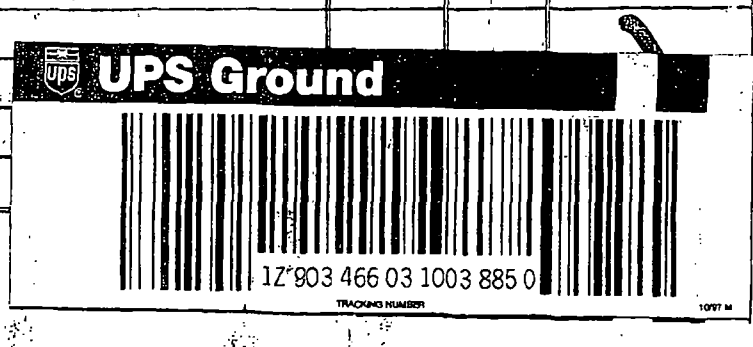
1.	Were custody seals on outside of cooler? If yes, how many and where?	Y (N)
2.	Were seals intact and signature & date correct?	~~Y N~~
3.	Is the shipper's airbill available and filed? If no, record airbill number:	(Y) N
4.	COC #	
	Temperature of cooler(s) upon receipt: 9.3	
	Temperature Blank: 8.1	
5.	Were custody papers properly filled out (ink, signed, etc.)?	(Y) N
6.	Type of packing material present Bubble wrap, gel ice	
7.	Did all bottles arrive in good condition (unbroken)?	(Y) N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(Y) N
9.	Did all bottle labels and tags agree with custody papers?	(Y) N
10.	Were the correct types of bottles used for the tests indicated?	(Y) N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?	(Y) N
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?	~~Y N~~
13.	Did the bottles originate from CAS/K or a branch laboratory?	(Y) N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?	~~Y N~~
15.	Was Cl2/Res negative?	~~Y N~~

Explain any discrepancies: _____

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
All Samples					X	A.J.



PFREV.DOC3/5/2003

A 00007

LFC002176

Subject: RE: Copper in waste water:
Date: Thu, 25 Sep 2003 06:06:21 -0700
From: "Greg O'Brien" <gregob@teleport.com>
To: "Mantell, James R." <jrmantell@longfibre.com>, <Gobrien@beckart.com>,
"Craig Thomas D" <tdcraig@longfibre.com>,
"Rogers Belton N." <bnrogers@longfibre.com>

Mr. Mantell,

Thank you for providing this information. Can we meet this coming Monday or Tuesday (Sept. 29 or 30) to discuss a solution to this problem? I am confident that the addition of our Poly V-100 such as Oakland uses will reduce the copper to well within your discharge limitations.

Please call me on my cell phone (503-789-3013) or e-mail me to let me know if a Monday or Tuesday meeting will work with your schedule.

Thank you,

Greg O'Brien
Beckart Environmental Inc.
503-789-3013
mailto:Gobrien@beckart.com

-----Original Message-----
From: Mantell, James R. [mailto:jrmantell@longfibre.com]
Sent: Wednesday, September 24, 2003 5:59 PM
To: Gobrien@beckart.com; Craig Thomas D; Rogers Belton N.
Subject: Copper in waste water:

Gerg:
The information on our waste water stream you asked for.
The last test samples for our treated water showed
Sample #1 8-26-03 12100 Units: ug/l (ppb) Copper
Sample #2 8-26-03 12300 Units: ug/l (ppb) Copper
Sample #1 8-25-03 11400 Units: ug/l (ppb) Copper
Sample #2 8-25-03 11900 Units: ug/l (ppb) Copper
Total metals, water treatment cake sample
% by weight Copper 0.112
The sample of untreated water showed
Sample #1 14.17 ppm copper
Sample #2 10.44 ppm copper
Our discharge permit allows use to discharge only 3 ppm on a daily average.
As you see we need to set up a meeting as soon as possible to resolve this matter.

Sincerely,

Jim Mantell
General Supervisor Longview Fibre

LFCo. Lab Service Memorandum No. 11679

Date: 17 SEPT 2003

Subject: Seattle Water Treatment Cake Sample

Keywords: Total metals, Seattle cake sample, percent solids, percent LOI

Requested by: Steve Frase, Dave Mendenhall **Performed by:** Colleen Roulette

Source and Description of Sample:

One sample of Cake from Seattle water treatment, was brought to the lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Total Metals were calculated using the Dry weight.

Results:

	Ink Sludge
% Solids	47.55
% LOI	92.55
% by Weight Barium	0.002
% by Weight Chromium	0
% by Weight Copper	0.112
% by Weight Lead	0
% by Weight Zinc	0.052

looks good JE.7 9/18/2003

Lab Book No. 279
Page 94

300 Fibre Way
Longview, WA 98632
Phone: 360-575-5570
Fax: 360-575-6110

Longview Fibre Co

Fax

To: Jim Mantell - Seattle **From:** David Mendenhall

Fax: 206-767-[illegible]442 **Date:** September 22, 2003

Phone: **Pages:** 2

Re: Cake Sample **CC:**

☐ **Urgent** X **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Jim- Results of the cake sample (from the Beckart) you sent to us.

LFCo. Lab Service Memorandum No. 11679

Date: 17 SEPT 2003

Subject: Seattle Water Treatment Cake Sample

Keywords: Total metals, Seattle cake sample, percent solids, percent LOI

Requested by: Steve Frase, Dave Mendenhall **Performed by:** Colleen Roulette

Source and Description of Sample:

One sample of Cake from Seattle water treatment, was brought to the lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Total Metals were calculated using the Dry weight.

Results:

	Ink Sludge
% Solids	47.55
% LOI	92.55
% by Weight Barium	0.002
% by Weight Chromium	0
% by Weight Copper	0.112
% by Weight Lead	0
% by Weight Zinc	0.052

Lab Book No. 279
Page 94

300 Fibre Way
Longview, WA 98632
Phone: 360-575-5570
Fax: 360-575-6110

Longview Fibre Comapny

Fax

Name: Tom Craig/ Jim Mantell **From:** dnmendenhall

Fax: 206-767-2442 **Date:** September 10, 2003

Phone: **Pages:** 2

Re: Sample Results **CC:**

☐ **Urgent** X **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Here are the results for the samples that you sent down to me. They are very high for copper. Have you found out anything about the metals requirements for the sludge to the landfill?

Dave

LFCo. Lab Service Memorandum No. 11671

Date: 09 SEPT 2003

Subject: Seattle Water Treatment Plant Wash-up Water

Keywords: Total metals, Seattle water treatment, wash-up water, solids, LOI

Requested by: Dave Mendenhall **Performed by:** Colleen Roulette

Source and *Description of Sample:*

Two samples of wash-up water (labeled #1 & #2) from Seattle water treatment plant, was brought to the lab for analysis on approximately 9/04/03.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals.

Results:

	#1	#2
Date	8/28/03	8/28.03
Time	4:45	4:50
% Solids	12.90	13.21
% LOI	96.41	95.70
ppm Chromium	0.00	0.00
ppm Copper	14.17	10.44
ppm Lead	0.35	0.58
ppm Zinc	70.67	87.19

Lab Book No. 279
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1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

September 11, 2003 Service Request No: K2306441

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on August 27, 2003. For your reference, these analyses have been assigned our service request number K2306441.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/jeb

cc: *Hank Rakoz, Longview Fibre, Longview, WA*

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	*Chemical Abstract Service registry Number*
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	*Leaking Underground Fuel Tank*
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Company
Project Name : Seattle Water Treatment
Project No. : NA

Service Request : K2306441

Sample Name :	Lab Code :
#1 8/25/03	K2306441-001
#2 8/25/03	K2306441-002
Method Blank	K2306441-MB

Comments:

00004

Approved By: _____ Date: 9/10/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Company	**Service Request :**	K2306441
Project Name :	Seattle Water Treatment	**Date Collected :**	08/25/03
Project No. :	NA	**Date Received :**	08/27/03
Matrix :	Water	**Date Extracted :**	09/04/03

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	09/09/03	09/09/03
Sample Name	**Lab Code**		
#1 8/25/03	K2306441-001	11400	694
#2 8/25/03	K2306441-002	11900	763
Method Blank	K2306441-MB	ND	ND

Comments:

00015

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SR#: K230644 1

PAGE _____ OF _____ COC #_____

PROJECT NAME: SEATTLE WATER TREATMENT
PROJECT NUMBER:
PROJECT MANAGER: JIM MANTELL
COMPANY/ADDRESS: LONGVIEW FIBRE CO. 5901 E. MARGINAL WAY SOUTH
CITY/STATE/ZIP: SEATTLE WA 98134
E-MAIL ADDRESS: JRMANTELL@LONGFIBRE.COM
PHONE #: 206-762-7170 FAX#: 206-767-2442
SAMPLER'S SIGNATURE: James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (see below) Gas☐ 8021☐ BTEX☐ Diesel☐ Oil☐ Fuel Fingerprint (FIQ)☐ NW-HCID Screen☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics Tri☐ Tetra☐ 8151M PCP☐	PAHs 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐					REMARKS
#1 B-25-03	8/25/03	9:30											✓											
#2 B-25-03	8/25/03	9:35											✓											

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: James R Mantell	Signature: [illegible]	Signature:	Signature:
Date/Time: 8/25/03 10:00pm	Date/Time: 8/27/03 1000	Date/Time:	Date/Time:
Printed Name: JIM MANTELL	Printed Name: [illegible]	Printed Name:	Printed Name:
Firm: LONGVIEW FIBRE CO.	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

LFC002188

Cooler Receipt and Preservation Form

Project/Client Fibre Work Order K23 6441

Cooler received on 8/27/03 and opened on 8/27/03 by KM

1.	Were custody seals on outside of cooler? If yes, how many and where?		Y (N)
2.	Were seals intact and signature & date correct?		Y (N)
3.	Is the shipper's airbill available and filed? If no, record airbill number:	UPS.	(Y) N
4.	COC #		
	Temperature of cooler(s) upon receipt:	2.9	
	Temperature Blank:		
5.	Were custody papers properly filled out (ink, signed, etc.)?		(Y) N
6.	Type of packing material present	gel ice,	
7.	Did all bottles arrive in good condition (unbroken)?		(Y) N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?		(Y) N
9.	Did all bottle labels and tags agree with custody papers?		(Y) N
10.	Were the correct types of bottles used for the tests indicated?		(Y) N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?		(Y) N
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?		~~Y N~~
13.	Did the bottles originate from CAS/K or a branch laboratory?		(Y) N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?		~~Y N~~
15.	Was Cl2/Res negative?		~~Y N~~

Explain any discrepancies: Client puts Total Diss. on COC - Samples 162 for total as per priors and bottle order.

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

CRFREV.DOC3/5/2003

0007

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
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September 26, 2003 Service Request No: K2306917

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment Plant

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on September 10, 2003. For your reference, these analyses have been assigned our service request number K2306917.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

cc: Hank Rakoz, Longview Fibre

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

000003

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client : Longview Fibre Company
Project Name : Seattle Water Treatment Plant
Project No. : NA

Service Request : K2306917

Sample Name :	Lab Code :
#1	K2306917-001
#2	K2306917-002
Method Blank	K2306917-MB

Comments:

000004

Approved By: _____ Date: 9/25/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Company	**Service Request :**	K2306917
Project Name :	Seattle Water Treatment Plant	**Date Collected :**	09/08/03
Project No. :	NA	**Date Received :**	09/10/03
Matrix :	Water	**Date Extracted :**	09/16/03

Total Metals
Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	09/24/03	09/24/03
Sample Name	**Lab Code**		
#1	K2306917-001	2250	243
#2	K2306917-002	2270	291
Method Blank	K2306917-MB	ND	ND

Comments:

000005

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SR#: K1306917

PAGE _____ OF _____ COC # _____

PROJECT NAME: SEATTLE WATER TREATMENT PLANT
PROJECT NUMBER:
PROJECT MANAGER: JIM MANTELL
COMPANY/ADDRESS: LONGVIEW FIBRE CO.
5901 E. MARGINAL WAY SOUTH
CITY/STATE/ZIP: SEATTLE, WA. 98134
E-MAIL ADDRESS: JRMANTELL@LONGFIBRE.COM
PHONE #: 206-762-7170 FAX#: 206-767-2442
SAMPLER'S SIGNATURE: James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
#1	9/8/03	8:15 PM				
#2	9/8/03	8:20 PM				

Semivolatile Organics by GC/MS 8250 ☐ 8270 ☐ 8270LL ☐
Volatile Organics 624 ☐ 8260 ☐ 8021 ☐ BTEX ☐
Hydrocarbons (*see below) Gas ☐ Diesel ☐ Oil ☐ Fuel Fingerprint (FIO) ☐
Oil & Grease/TRPH 1664 HEM ☐ NW-HCID Screen 1664 SGT ☐
PCB's Aroclors ☐ Congeners ☐
Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐
Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐
PAHS 8310 ☐ SIM ☐
Metals Total or Dissolved (See list below)
Cyanide ☐ Hex-Chrom ☐
pH, Cond., Cl, SO_4, P, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3
TOX 9020 ☐ AOX 1650 ☐ 506 ☐

REPORT REQUIREMENTS

Y I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (Includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
Y Standard (10-15 working days)
____ Provide FAX Results
_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

125555

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: James R Mantell	Signature: Tracy Black	Signature:	Signature:
Date/Time: 9-8-03 9:00 PM	Date/Time: 9/10/03 1500	Date/Time:	Date/Time:
Printed Name: Jim MANTELL	Printed Name: T Black	Printed Name:	Printed Name:
Firm: LONGVIEW FIBRE Co.	Firm: CAS	Firm:	Firm:

RCOC #1 0F

LFC002195

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

Project/Client LV - Fibre Work Order K23 06917

Cooler received on 9/10/03 and opened on 9/10/03 by A. Jurell

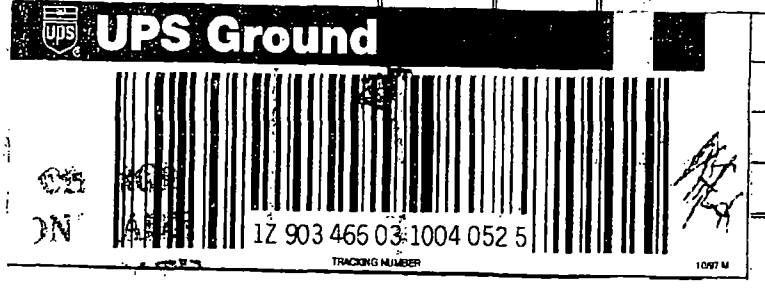
1.	Were custody seals on outside of cooler? If yes, how many and where?		Y (N)
2.	Were seals intact and signature & date correct?		~~Y N~~
3.	Is the shipper's airbill available and filed? If no, record airbill number: UPS		Y N
4.	COC #		
	Temperature of cooler(s) upon receipt:	10.2	
	Temperature Blank:	4.1	
5.	Were custody papers properly filled out (ink, signed, etc.)?		(Y) N
6.	Type of packing material present	Bubble, gel ice	
7.	Did all bottles arrive in good condition (unbroken)?		(Y) N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?		(Y) N
9.	Did all bottle labels and tags agree with custody papers?		(Y) N
10.	Were the correct types of bottles used for the tests indicated?		(Y) N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?		(Y) N
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?		~~Y N~~
13.	Did the bottles originate from CAS/K or a branch laboratory?		(Y) N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?		~~Y N~~
15.	Was Cl2/Res negative?		~~Y N~~

Explain any discrepancies: _____

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
					DDDDD7	



CRFREV.DOC3/5/2003

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 636-1068 fax

Columbia Analytical Services, Inc.
An Employee - Owned Company

August 6, 2003 Service Request No: K2305380

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on July 23, 2003. For your reference, these analyses have been assigned our service request number K2305380.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

cc: Hank Rakoz, Longview Fibre

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

00003

COLUMBIA ANALYTICAL SERVICES, INC.

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Longview Fibre Company
Project Name: Seattle Water Treatment
Project No.: NA

Service Request: K2305380

Sample Name:	Lab Code:
Water Treatment Sample #1	K2305380-001
Water Treatment Sample #2	K2305380-002
Method Blank	K2305380-MB

Comments:

00004

Approved By: _____ Date: 8/5/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client :	Longview Fibre Company	**Service Request :**	K2305380
Project Name :	Seattle Water Treatment	**Date Collected :**	07/21/03
Project No. :	NA	**Date Received :**	07/23/03
Matrix :	Water	**Date Extracted :**	07/28/03

Total Metals
Units: ug/L (ppb)

Analyte:	Copper	Zinc
EPA Method:	6010B	6010B
Method Reporting Limit:	10	10
Date Analyzed:	08/04/03	08/04/03

Sample Name	**Lab Code**		
Water Treatment Sample #1	K2305380-001	3510	197
Water Treatment Sample #2	K2305380-002	3330	171
Method Blank	K2305380-MB	ND	ND

Comments:

Columbia Analytical Services INC.
An Employee - Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: 12305380

PAGE _____ OF _____ COC #_____

PROJECT NAME: SEATTLE WATER TREATMENT
PROJECT NUMBER:
PROJECT MANAGER: JIM MANTELL
COMPANY/ADDRESS: LONGVIEW FIBRE CO. 5701 E. MARGINAL WAY S.
CITY/STATE/ZIP: SEATTLE WA. 98134
E-MAIL ADDRESS: JRMANTELL@LONGFIBRE.COM
PHONE #: 206-762-7170 FAX#: 206-767-2442
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	8021☐ BTEX☐ Fuel Fingerprint (FIQ)☐ NW-HCID Screen☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 508☐					REMARKS
WATER TREATMENT SAMPLE #1	7/21/03	2:40 PM	1												✓										
WATER TREATMENT SAMPLE #2	7/21/03	2:45 PM	V												✓										

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr (Cu) Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V (Zn) Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
KING CO. WOULD LIKE TO KNOW IF WE ARE GETTING ALL THE COPPER AND ZINC OUT OF OUR TREATED WATER AND IF NOT HOW MUCH IS IN THE DISCHARGE

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: James R Mantell	Signature: Jenny Black	Signature:	Signature:
Date/Time: 7/21/03 3PM	Date/Time: 7/23/03 1430	Date/Time:	Date/Time:
Printed Name: JIM MANTELL	Printed Name: Black	Printed Name:	Printed Name:
Firm: LONGVIEW FIBRE	Firm: CAS	Firm:	Firm:

RCOC #1 06/03

LFC002202

Cooler Receipt And Preservation Form

Project/Client Lv. Fibre Work Order K23 05380

Cooler received on 7/23/03 and opened on 7/23/03 by KM.

1.	Were custody seals on outside of cooler? If yes, how many and where?					Y (N)
2.	Were seals intact and signature & date correct?					Y (N)
3.	Is the shipper's airbill available and filed? If no, record airbill number: ~~Fed Ex UPS~~ KM					Y N
4.	COC #					
	Temperature of cooler(s) upon receipt:	17.1				
	Temperature Blank:					
5.	Were custody papers properly filled out (ink, signed, etc.)?					(Y) N
6.	Type of packing material present Melted ice pack.					
7.	Did all bottles arrive in good condition (unbroken)?					(Y) N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?					(Y) N
9.	Did all bottle labels and tags agree with custody papers?					(Y) N
10.	Were the correct types of bottles used for the tests indicated?					(Y) N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?					~~Y N~~
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?					~~Y N~~
13.	Did the bottles originate from CAS/K or a branch laboratory?					(Y) N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?					Y ~~N~~
15.	Was Cl2/Res negative?					~~Y N~~

Explain any discrepancies: Didn't PH due to Nature of Liquid. Client circles total & dissolved metals - Bottle order for total metals -

RESOLUTION:

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

CRFREV.DOC3/5/2003

Columbia Analytical Services, Inc.
An Employee-Owned Company

April 16, 1999 Service Request No: K9902017

Tim Lutzko
Longview Fibre Company
5901 E. Marginal Way
Seattle, WA 98124

Dear Tim:

Enclosed are the results of the sample(s) submitted to our laboratory on March 31, 1999. For your reference, these analyses have been assigned our service request number K9902017.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/td

cc: Hank Rakoz

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Longview Fibre Company
Project: NA
Sample Matrix: Water

Service Request: K9902017
Date Collected: 3/10-22/99
Date Received: 3/31/99
Date Extracted: 4/9/99

Total Metals
Units: µg/L (ppb)

		Sample Name:	03/10;7.0	03/16;7.5	03/22;7.5
		Lab Code:	K9902017-001	K9902017-002	K9902017-003
		Date Analyzed:	4/14/99	4/14/99	4/14/99
Analyte	**EPA Method**	**MRL**			
Chromium	6010B	5	ND	ND	ND
Copper	6010B	10	ND	33	ND
Iron	6010B	20	1240	1820	1430
Lead	6010B	50	ND	ND	ND
Zinc	6010B	10	786	1640	880

Approved By: _____ Date: 4/15/99

3S30EPA/102094
02017ICP BR1 - Sample 4/15/99

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9902017
Project:	NA	**Date Collected:**	3/10-22/99
Sample Matrix:	Water	**Date Received:**	3/31/99
		Date Extracted:	4/9/99

Total Metals
Units: µg/L (ppb)

			Sample Name:	03/11;8.0	03/12;7.1	Method Blank
			Lab Code:	K9902017-004	K9902017-005	K9902017-MB
			Date Analyzed:	4/14/99	4/14/99	4/14/99
Analyte	**EPA Method**	**MRL**				
Chromium	6010B	5		ND	ND	ND
Copper	6010B	10		ND	ND	ND
Iron	6010B	20		809	1440	ND
Lead	6010B	50		ND	ND	ND
Zinc	6010B	10		772	773	ND

Approved By: _____ Date: 4/15/99

3S30EPA/102094
02017ICP.BR1 - Sample (2) 4/15/99

AmeriChem Testing Laboratory

1761 N. Batavia St.
Orange, CA 92865
FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: SC-6014
CLIENT:
Attn.: Mr. Clayton P. Willison
Beckart Environmental, Inc.
7372 Prince Dr., Suite 206
Huntington Beach, CA 92647

REPORT ON:
Waste samples
Gaylord -Antioch

DATE REPORTED: 04-14-97
DATE RECEIVED: 04-14-97

ANALYSIS	TEST RESULT mg/l Before Treatment	TEST RESULT mg/l After Treatment	DET. LIMIT mg/l	METHOD
Copper	2.05	0.07	0.05	EPA 220.1

Peter T. Wu
Lab Director

Testing Laboratory
Orange, CA 92665 FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: SC-3433
CLIENT:
Attn.: Mr. Clayton P. Willison
Beckart Environmental, Inc.
7372 Prince Dr., Suite 206
Huntington Beach, CA 92647

REPORT ON:
Waste samples
Spectrum Label, 11/4/94

DATE REPORTED: 11-07-94
DATE RECEIVED: 11-04-94

ANALYSIS	TEST RESULT mg/l IN	OUT	DET. LIMIT mg/l	METHOD
Lead	0.76	0.28	0.05	EPA 239.1
Zinc	0.98	ND	0.05	EPA 289.1
Copper	93.0	1.17	0.05	EPA 220.1
Barium	1.70	0.52	0.50	EPA 208.1

Peter T. Wu
Lab Director

300 Fibre Way
Longview, WA 98632
Phone: (360) 575-5570
Fax: (360) 575-5934

Longview Fibre Co.

Fax

To:	Tim Lutzko	**From:**	Dave Mendenhall
Fax:	206-768-3609	**Date:**	February 12, 1999
Phone:		**Pages:**	2
Re:	Sample Results		[Click here and type name]

x **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Tim- Attached to this Fax are the latest results from the water that you sent to me. Sorry about the delay in getting them back to you. We have been very busy in the Main Lab with other projects and the sample got over looked. We will try to do better next time.

Dave

LFCo. Lab Service Memorandum **No.**

Date: 12 Feb. 99

Subject: Metals in Seattle Boxplant Wastewater

Keywords: as Title

Work Requested by: Dave Mendenhall **Work Performed by:** Dwayne Van

Source and Description of Sample:

A plastic sample cup of treated wastewater from the Seattle boxplant, taken on 1/19/99 was received for testing.

Analytical Methods and Procedures:

The sample was analyzed by flame AA , using the Unicam model 969.

Lab Results:

ppm CHROMIUM	0.158
ppm COPPER	0.0
ppm IRON	3.100
ppm LEAD	0.0
ppm ZINC	1.390

3000g DISCHARGE

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2307137. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

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Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (il01)
22-SEP-03 09:03

Service Req. No. K2307137
Client No. 125855
Client Name Longview Fibre Company

Project No.
Project Name Seattle Water Treatment

Bottles: 2 - 500 ml Red

Bill To: Longview Fibre-Seattle Box Plant
Attn: Accounts Payable
5901 E. Marginal Way S.
Seattle, WA 98124

Report To: Longview Fibre Company
Jim Mantell
5901 E. Marginal Way S.
Seattle, WA 98124

P.O. No. LV040784 L
Logged in By KMORROW
ISR Num
COC Received Y
Samples Submitted 16-SEP-03

Site ID
Project Chemist Ed Wallace

Storage: HERK E3

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	ICP-2	DIGEST
K2307137-001	#1 9-12-03	WATER	08:20 12-SEP-03	30-SEP-03	1	1
K2307137-002	#2 9-12-03	WATER	08:30 12-SEP-03	30-SEP-03	1	1

Comments:

K2307137 ICP-2: =Cu,Zn.

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2306917. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

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Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (il01)
12-SEP-03 10:31

PAGE 02

Service Req. No.	K2306917	Project No.		Bottles: 2 - 500 ml Red
Client No.	125855	Project Name	Seattle Water Treatment Plant	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Jim Mantell 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LVD40784 L	Site ID		
Logged In By	TBLACK	Project Chemist	Ed Wallace	
ISR Num				
COC Received	Y			
Samples Submitted	10-SEP-03			Storage: RERK A6

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	ICP-2	*DIGEST
K2306917-001	#1	WATER	20:15 08-SEP-03	24-SEP-03	1	1
K2306917-002	#2	WATER	20:20 08-SEP-03	24-SEP-03	1	1

Comments:

K2306917 ICP-2: *Cu,Zn.

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Longview Fibre Company
Value-Added Products • Sustainable Forestry

TELECOMMUNICATIONS COVER SHEET

LONGVIEW FIBRE COMPANY
300 FIBRE WAY
PO BOX 639
LONGVIEW, WA. 98532

From: STEVE E. FRASE
SOLID WASTE ENGINEER
phone # (360) 575-5578
fax #'s (360) 575-5934 (switchboard)
(360) 575-6110 (Environmental Services Dept.)

Date: November 25, 2003

Total number of pages including cover page: 2

To: Jim Mantell
Seattle Box Plant

Fax # (206) 767-2442

MESSAGE: Colleen just finished lab work on your 6 samples this morning. All copper concentrations are in excess of your new permit limit of 3 PPM. Range 4.55 to 7.18PPM copper. Report follows.
Steve.

LFCo. Lab Service Memorandum

No. 11724

Date: 25 NOV 2003

Subject: Seattle Box Water Treatment Plant Samples

Keywords: Copper, zinc, heavy metals

Requested by: Dave Mendenhall **Performed by:** Colleen Roulette

Source and Description of Sample:

Two sets of samples (6 total), from Seattle Box water treatment plant, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

Metals were run on the Unicam 969 AA Spectrometer.

Results:

Sample	Date	ppm Copper	ppm Zinc
#1 Decanting	10/31/03	4.65	0.51
#2 Decanting	10/31/03	4.62	0.50
#3 Decanting	10/31/03	4.57	0.51
#4 Decanting	10/31/03	4.55	0.46
#1 Mid Decanting	11/03/03	7.18	0.44
#2 Mid Decanting	11/03/03	7.15	0.40

LFCo. Lab Service Memorandum

No. 11741

Date: 09 DEC 2003

Subject: Seattle Water Treatment Plant Decant Samples

Keywords: Copper, zinc, decant, Seattle water treatment

Requested by: Dave Mendenhall **Performed by:** Colleen Roulette

Source and Description of Sample:

Two samples (decant), dated 12/04/03, from Seattle Box water treatment plant, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

Metals were run on the Unicam 969 AA Spectrometer.

Results:

Sample	Time	ppm Copper	ppm Zinc
Decant	12:15	1.06	0.85
Decant	12:20	1.05	0.86

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2306511. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

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Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (1101)
29-AUG-03 10:30

Service Req. No. KZ306511 | Project No. | Bottles: 2 - 500 ml Red
Client No. 125855 | Project Name Seattle Water Treatment
Client Name Longview Fibre Company

Bill To: Longview Fibre-Seattle Box Plant
Attn: Accounts Payable
5901 E. Marginal Way S.
Seattle, WA 98124

Report To: Longview Fibre Company
Jim Mantell
5901 E. Marginal Way S.
Seattle, WA 98124

P.O. No. LV040784 L | Site ID
Logged In By AJUELL | Project Chemist Ed Wallace
ISR Num
COC Received Y
Samples Submitted 28-AUG-03 | Storage: SAM 28

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	ICP-2	%DIGEST
KZ306511-001	#1 8-26-03	WATER	19:50 26-AUG-03	11-SEP-03	1	1
KZ306511-002	#2 8-26-03	WATER	20:00 26-AUG-03	11-SEP-03	1	1

Comments:

KZ306511 ICP-2: Cu,Zn.

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Longview Fibre Company

Value-Added Products • Sustainable Forestry

FROM Craig A. McKinney
TO Tom Craig
Subject: Area Monitoring Results for

COPIES: ADW, GLK

Date test	*Sample*	*Substance*	*Results*	*TWA*	*STEL*	*Ceiling*	*Time*
12/9/2003	1209031	Carbon Monoxid	13.9 ppm	35 ppm	52 ppm	200 ppm	381

Department Seattle

Location Fork Truck 927

Worktype Moving finnished boxes.

Memo Sample taken with two drivers across shift change. The concentration shown is the highest fifteen minute average (STEL). The eight hour average (TWA) was 4.7 ppm, and the highest one minute average (ceiling) was 55 ppm.

12/9/2003	1209032	Carbon Monoxid	12.1 ppm	35 ppm	52 ppm	200 ppm	385

Department Seattle

Location Outside shipping office door hung on chain for gas bottles

Worktype Fork trucks and grab trucks move continuously past this location.

Memo Sample was taken across shift change. The concentration shown is the highest fifteen minute average (STEL). The eight hour average (TWA) was 1.8 ppm, and the highest one minute average (ceiling) was 20 ppm.

12/9/2003	1209033	Carbon Monoxid	13.59 pp	35 ppm	52 ppm	200 ppm	190

Department Seattle

Location On post ~4 feet off floor across alley from Ex. 7402 outside Maintenance Foreman Office.

Worktype Fork trucks and grab trucks move continuously past this location.

Memo Monitor battery failed after 3 hours. The concentration shown is the highest fifteen minute average (STEL). The eight hour average (TWA) was 2.1 ppm, and the highest one minute average (ceiling) was 41 ppm.

12/9/2003	1209034	Carbon Monoxid	No Data	35 ppm	52 ppm	200 ppm

Department Seattle

Location Grab Truck 924

Worktype Moving rolls of paper.

Memo Monitor Datalogger card failed. No sample data retrieved.

CORPORATE OFFICES
300 Fibre Way • P.O. Box 639, Longview, WA 98632
Phone (360) 425-1550 • Fax (360) 575-5934 • www.longviewfibre.com

Date test	*Sample*	*Substance*	*Results*	*TWA*	*STEL*	*Ceiling*	*Time*

The result(s) indicate(s) that:

( ) Protective equipment must be used. Type:

( ) Equipment change(s) will be evaluated to reduce exposures.

( ) Work practice changes will be evaluated to reduce exposures.

( ) No change in current practices is necessary.

( ) You will be asked to participate in Medical Surveillance Program.

(x) No over exposure has occurred.

If you wish to discuss this in more detail, please contact me at your earliest convenience.

Industrial Hygienist

cc: Department Industrial Hygiene Monitoring File at Safety Office

****Please post a copy of these results in the area for two weeks after the date of report. **It must be posted within 5 days of the report for lead exposure** or 15 days for all other exposures. ****

Abbreviations: ND - Not Detected, mg/m^3 - milligrams per cubic meter, ppm - parts per million, short term - less than or equal to 15 minutes, partial shift - greater than 15 minutes but less than 420 minutes, full shift - greater than or equal to 420 minutes.

Instrument: TMX412, S/N: 9712149374

Last calibration date: Dec. 02, 2003
Session starts @ 09:11 Dec. 09, 2003
Session ends @ 12:21 Dec. 09, 2003

Toxic sensor#1 (H2S): Maximum = 0 PPM @ 09:11 Dec. 09, 2003
Toxic sensor#1 (H2S): Minimum = 0 PPM @ 09:11 Dec. 09, 2003

Toxic sensor#2 (CO): Maximum = 41 PPM @ 10:40 Dec. 09, 2003
Toxic sensor#2 (CO): Minimum = 2 PPM @ 10:20 Dec. 09, 2003

O2: Maximum = 21.1 % @ 09:11 Dec. 09, 2003
O2: Minimum = 20.8 % @ 09:17 Dec. 09, 2003

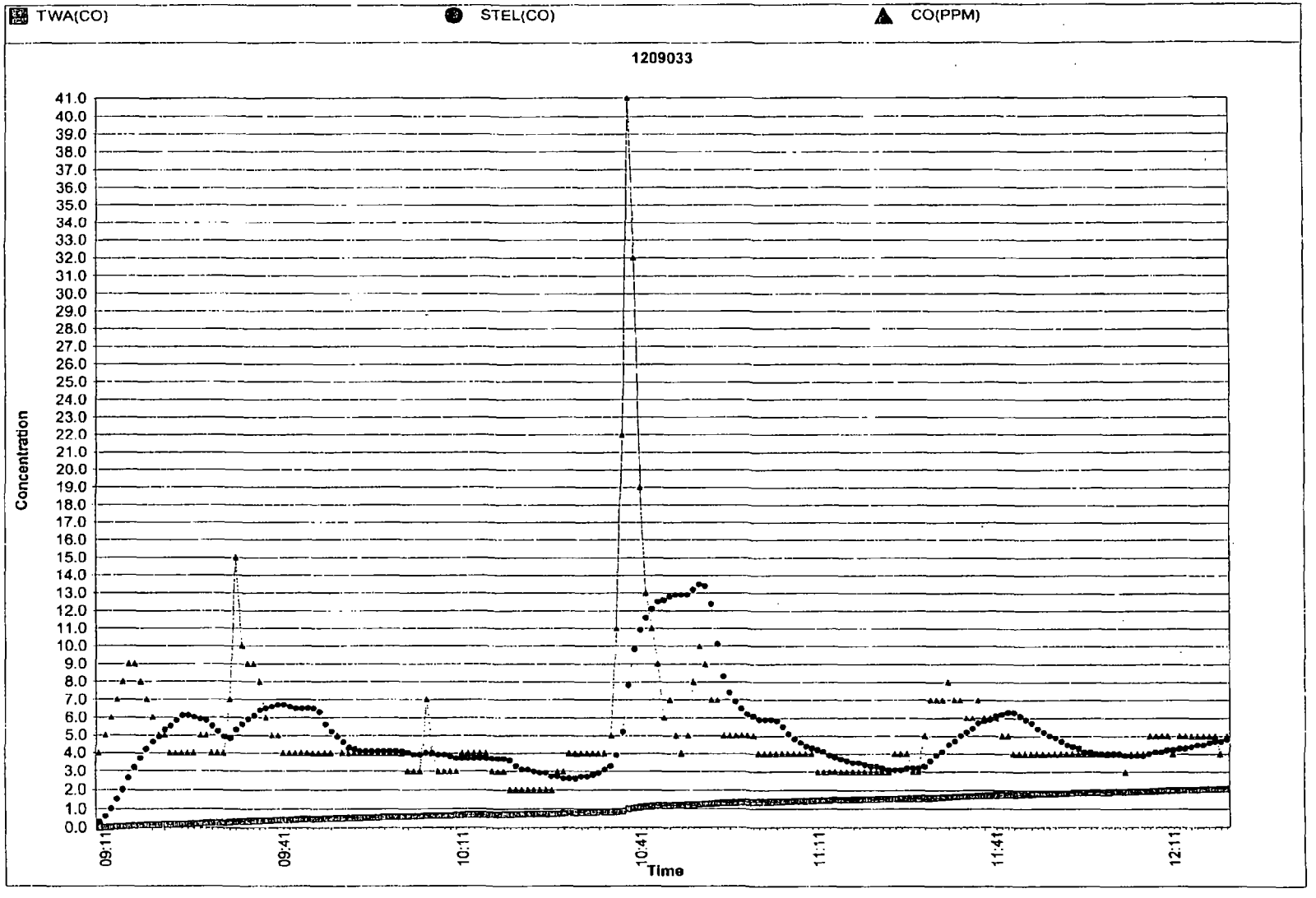
LEL: Maximum = 0 % @ 09:11 Dec. 09, 2003
LEL: Minimum = 0 % @ 09:11 Dec. 09, 2003

TWA:
Data was logged with TWA time base set to 8 hour(s).
Toxic sensor#1 (H2S):
Final TWA = 0.00 PPM @ 12:21 Dec. 09, 2003
TWA Alarm = 7
Toxic sensor#2 (CO):
Final TWA = 2.09 PPM @ 12:21 Dec. 09, 2003
TWA Alarm = 19

STEL:
Toxic sensor#1 (H2S):
Maximum = 0.0 PPM @ 09:11 Dec. 09, 2003
Minimum = 0.0 PPM @ 09:11 Dec. 09, 2003
STEL Alarm = 11
Toxic sensor#2 (CO):
Maximum = 13.5 PPM @ 10:52 Dec. 09, 2003
Minimum = 0.3 PPM @ 09:11 Dec. 09, 2003
STEL Alarm = 39

//Comments//

Dec. 09, 2003
Comment#1 [09:11]: Seattle Box Plant Carbon Monoxide Survey.
on post ~4 feet off floor across alley from Eq 7402 outside Maintenance Foreman Office.


TWA(CO)
STEL(CO)
CO(PPM)
1209033
Concentration
41.0
40.0
39.0
38.0
37.0
36.0
35.0
34.0
33.0
32.0
31.0
30.0
29.0
28.0
27.0
26.0
25.0
24.0
23.0
22.0
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20.0
19.0
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17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
09:11
09:41
10:11
10:41
11:11
11:41
12:11
Time

Instrument: TMX412, S/N: 9806035482

Last calibration date: Dec. 03, 2003
Session starts @ 09:03 Dec. 09, 2003
Session ends @ 15:24 Dec. 09, 2003

Toxic sensor#1 (H2S): Maximum = 3 PPM @ 10:00 Dec. 09, 2003
Toxic sensor#1 (H2S): Minimum = 0 PPM @ 09:03 Dec. 09, 2003

Toxic sensor#2 (CO): Maximum = 55 PPM @ 10:19 Dec. 09, 2003
Toxic sensor#2 (CO): Minimum = 0 PPM @ 11:58 Dec. 09, 2003

O2: Maximum = 21.0 % @ 09:03 Dec. 09, 2003
O2: Minimum = 20.7 % @ 14:07 Dec. 09, 2003

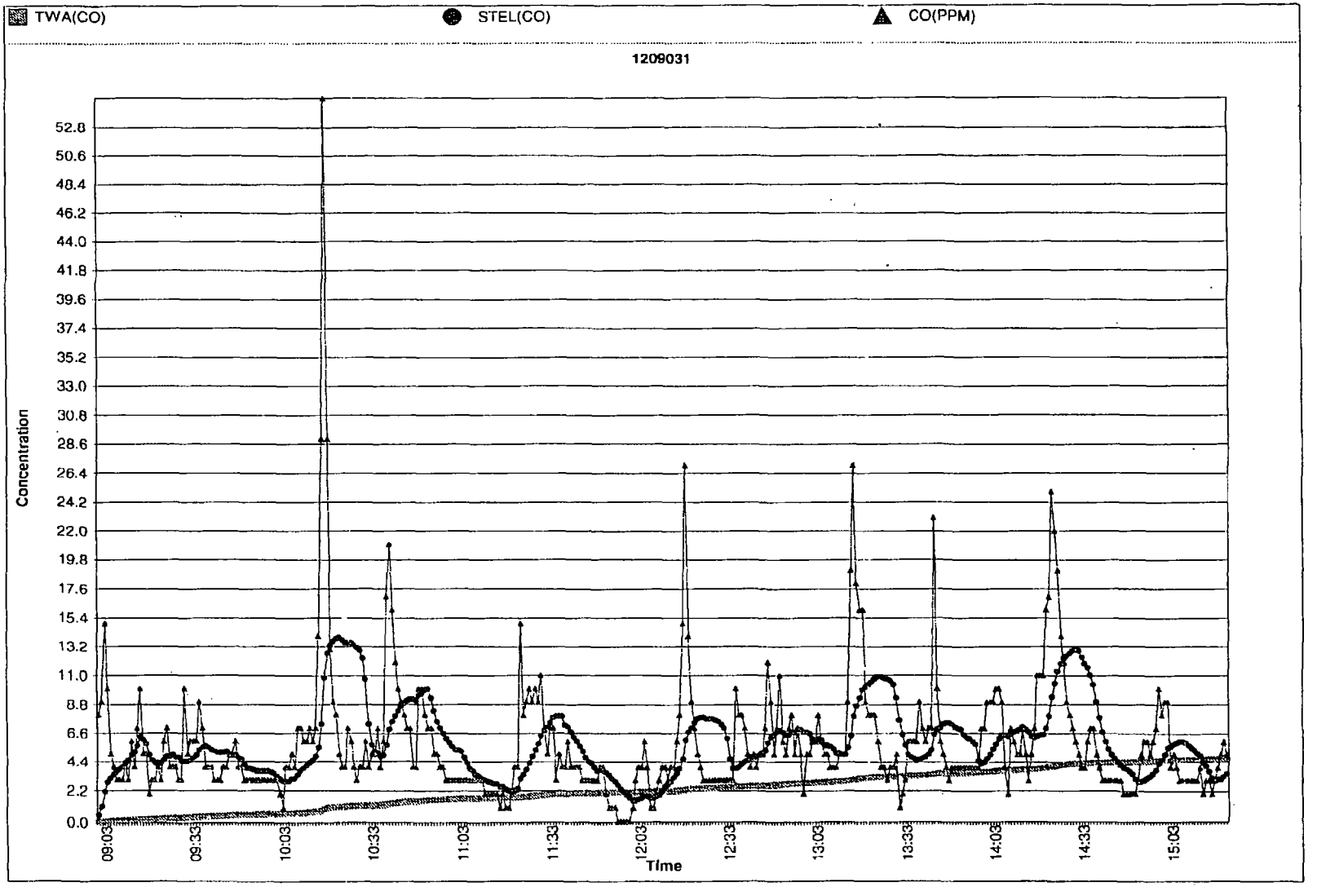
LEL: Maximum = 0 % @ 09:03 Dec. 09, 2003
LEL: Minimum = 0 % @ 09:03 Dec. 09, 2003

TWA:
Data was logged with TWA time base set to 8 hour(s).
Toxic sensor#1 (H2S):
Final TWA = 1.27 PPM @ 15:24 Dec. 09, 2003
TWA Alarm = 7
Toxic sensor#2 (CO):
Final TWA = 4.72 PPM @ 15:24 Dec. 09, 2003
TWA Alarm = 19

STEL:
Toxic sensor#1 (H2S):
Maximum = 3.0 PPM @ 14:51 Dec. 09, 2003
Minimum = 0.0 PPM @ 09:03 Dec. 09, 2003
STEL Alarm = 11
Toxic sensor#2 (CO):
Maximum = 13.9 PPM @ 10:24 Dec. 09, 2003
Minimum = 0.5 PPM @ 09:03 Dec. 09, 2003
STEL Alarm = 39

//Comments//

Dec. 09, 2003
Comment#1 [09:03]: Seattle Box Plant Carbon Monoxide Survey.
On Fork truck 927. Sample taken with two drivers across shift change.


TWA(CO)
STEL(CO)
CO(PPM)
1209031
Concentration
52.8
50.6
48.4
46.2
44.0
41.8
39.6
37.4
35.2
33.0
30.8
28.6
26.4
24.2
22.0
19.8
17.6
15.4
13.2
11.0
8.8
6.6
4.4
2.2
0.0
09:03
09:33
10:03
10:33
11:03
11:33
12:03
12:33
13:03
13:33
14:03
14:33
15:03
Time

Instrument: TMX412, S/N: 9712149369

Last calibration date: Dec. 04, 2003
Session starts @ 08:59 Dec. 09, 2003
Session ends @ 15:24 Dec. 09, 2003

Toxic sensor#1 (H2S): Maximum = 0 PPM @ 08:59 Dec. 09, 2003
Toxic sensor#1 (H2S): Minimum = 0 PPM @ 08:59 Dec. 09, 2003

Toxic sensor#2 (CO): Maximum = 20 PPM @ 09:05 Dec. 09, 2003
Toxic sensor#2 (CO): Minimum = 0 PPM @ 09:20 Dec. 09, 2003

O2: Maximum = 21.3 % @ 08:59 Dec. 09, 2003
O2: Minimum = 20.8 % @ 14:31 Dec. 09, 2003

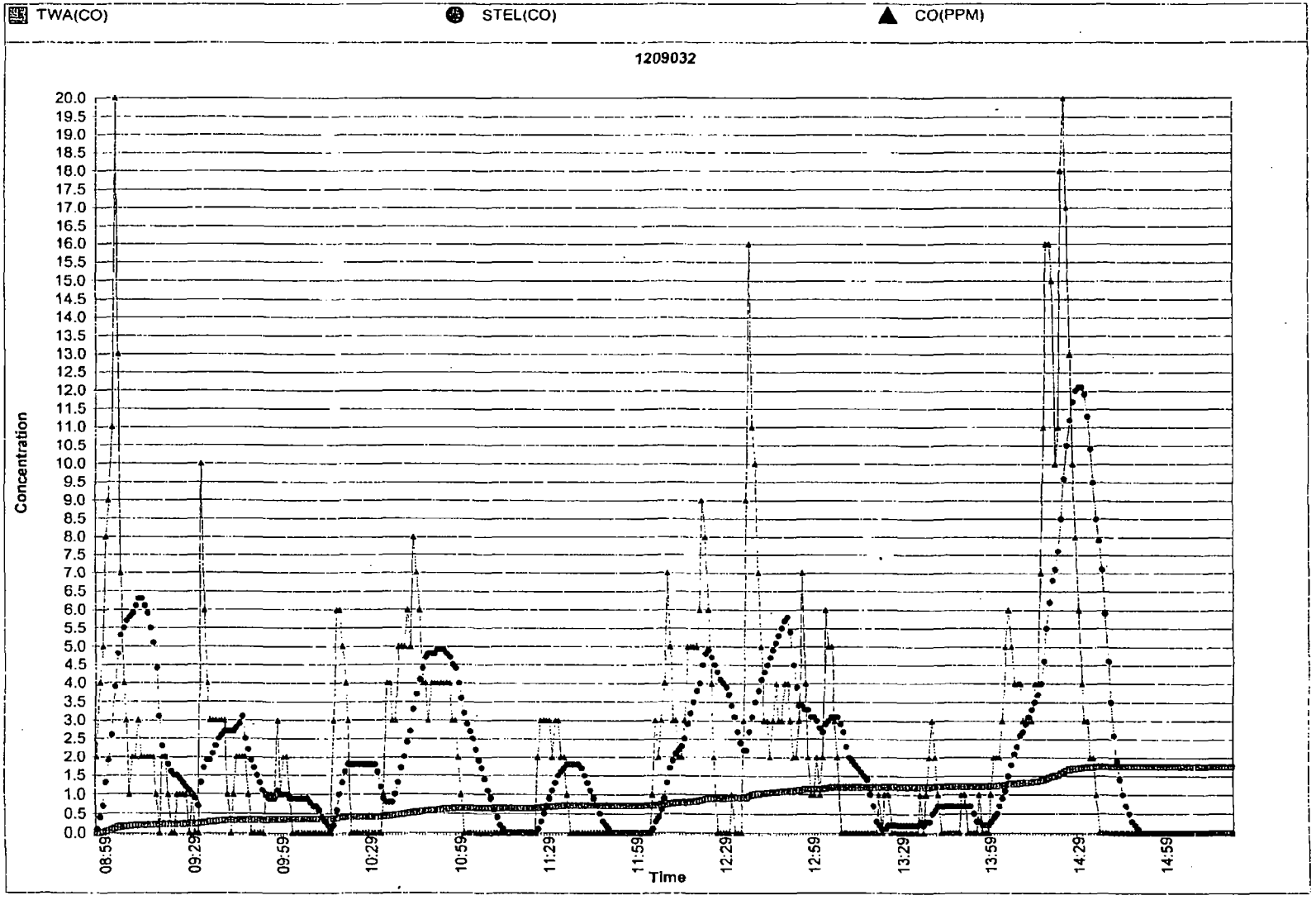
LEL: Maximum = 0 % @ 08:59 Dec. 09, 2003
LEL: Minimum = 0 % @ 08:59 Dec. 09, 2003

TWA:
Data was logged with TWA time base set to 8 hour(s).
Toxic sensor#1 (H2S):
Final TWA = 0.00 PPM @ 15:24 Dec. 09, 2003
TWA Alarm = 7
Toxic sensor#2 (CO):
Final TWA = 1.76 PPM @ 15:24 Dec. 09, 2003
TWA Alarm = 19

STEL:
Toxic sensor#1 (H2S):
Maximum = 0.0 PPM @ 08:59 Dec. 09, 2003
Minimum = 0.0 PPM @ 08:59 Dec. 09, 2003
STEL Alarm = 11
Toxic sensor#2 (CO):
Maximum = 12.1 PPM @ 14:32 Dec. 09, 2003
Minimum = 0.0 PPM @ 11:17 Dec. 09, 2003
STEL Alarm = 39

//Comments//

Dec. 09, 2003
Comment#1 [08:59]: Seattle Box Plant Carbon Monoxide Survey.
Area sample outside shipping office door hung on chain for gas bottles.


TWA(CO)
STEL(CO)
CO(PPM)
1209032
Concentration
20.0
19.5
19.0
18.5
18.0
17.5
17.0
16.5
16.0
15.5
15.0
14.5
14.0
13.5
13.0
12.5
12.0
11.5
11.0
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
08:59
09:29
09:59
10:29
10:59
11:29
11:59
12:29
12:59
13:29
13:59
14:29
14:59
Time

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 425-9096 fax

Columbia Analytical Services INC
An Employee - Owned Company

January 31, 2003 Service Request No: K2209290

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Ground Water

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on December 27, 2002. For your reference, these analyses have been assigned our service request number K2209290.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

cc: Hank Rakoz, Longview Fibre
Dave Mendenhall, Longview Fibre

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Client:	Longview Fibre Company	**Service Request:**	K2209290
Project:	Seattle Ground Water	**Date Collected:**	12/23/2002
Sample Matrix:	Water	**Date Received:**	12/27/2002

Diesel and Residual Range Organics

Sample Name:	North Loading Dock	**Units:**	ug/L
Lab Code:	K2209290-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**4100**		250	1	12/30/02	01/29/03	KWG0210923	
Residual Range Organics (RRO)	**2000**		500	1	12/30/02	01/29/03	KWG0210923	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	77	50-150	01/29/03	Acceptable
n-Triacontane	85	50-150	01/29/03	Acceptable

Comments:

Client:	Longview Fibre Company	**Service Request:**	K2209290
Project:	Seattle Ground Water	**Date Collected:**	12/23/2002
Sample Matrix:	Water	**Date Received:**	12/27/2002

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K2209290-002	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**41000**	D	2600	10	12/30/02	01/29/03	KWG0210923	
Residual Range Organics (RRO)	**5800**	D	5200	10	12/30/02	01/29/03	KWG0210923	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	107	50-150	01/29/03	Acceptable
n-Triacontane	149	50-150	01/29/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K2209290
Project:	Seattle Ground Water	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0210923-5	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	12/30/02	01/29/03	KWG0210923	
Residual Range Organics (RRO)	ND	U	500	1	12/30/02	01/29/03	KWG0210923	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	88	50-150	01/29/03	Acceptable
n-Triacontane	89	50-150	01/29/03	Acceptable

Comments:

Columbia Analytical Services, INC
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: K220290 20007

PAGE _____ OF _____ COC #_____

PROJECT NAME: SEATTLE GROUND WATER
PROJECT NUMBER:
PROJECT MANAGER: JIM MANTELL
COMPANY/ADDRESS: LONGVIEW FIBRE CO
5901 E. MARGINAL WAY SOUTH SEATTLE
PHONE #: 206 762-7170 FAX #: 206-767-2442
SAMPLER'S SIGNATURE: James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics: 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle) NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020☐ AOX 1650☐ 506☐						REMARKS

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 Day
___ Standard (10-15 working days)
___ Provide FAX Results

_____
Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
SAMPLES LABELED: AB
NORTH LOADING DOCK 12/23/02 1610
WEST PARKING LOT 12/23/02 1555

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: James R Mantell	Signature: Barry Black	Signature:	Signature:
Date/Time: 12-26-02	Date/Time: 12/27/02 1230	Date/Time:	Date/Time:
Printed Name: JIM MANTELL	Printed Name: Black	Printed Name:	Printed Name:
Firm: FIBRE CO	Firm: CAS	Firm:	Firm:

RCOC #1 04/02

LFC002235

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

Project/Client LV FIBRE Work Order K22 04290

Cooler received on 12/27/02 and opened on 12/27/02 by AP

1. Were custody seals on outside of cooler? UPS Y (N)
   If yes, how many and where? _____
2. Were seals intact and signature & date correct? ~~Y~~ ~~N~~
3. COC # _____
   Temperature of cooler(s) upon receipt: 11.6
   Temperature Blank: 12.0
4. Were custody papers properly filled out (ink, signed, etc.)? Y (N)
5. Type of packing material present BUBBLE, MESH
6. Did all bottles arrive in good condition (unbroken)? (Y) N
7. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (Y) N
8. Did all bottle labels and tags agree with custody papers? Y (N)
9. Were the correct types of bottles used for the tests indicated? (Y) N
10. Were all of the preserved bottles received at the lab with the appropriate pH? ~~Y~~ ~~N~~
11. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~Y~~ ~~N~~
12. Did the bottles originate from CAS/K or a branch laboratory? (Y) N
13. Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection? ~~Y~~ ~~N~~
14. Was CL2/Residual negative? ~~Y~~ ~~N~~

Explain any discrepancies: NO SAMPLES LISTED ON COC.

RESOLUTION: _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

CRFREV.DOC12/24/01
00008

LFC002236

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2303331. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (il01)
07-MAY-03 13:22

Service Req. No.	K2303331	Project No.		Bottles: 2 - 500 ml Amber
Client No.	125855	Project Name	Seattle Ground Water	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Jim Mantell 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LV040784 L	Site ID		
Logged In By	KMORROW	Project Chemist	Ed Wallace	
ISR Num				
COC Received	Y			
Samples Submitted	05-MAY-03			Storage: SAMSON 64

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	DX-NWTPH
K2303331-001	West Parking Lot	WATER	19:30 01-MAY-03	19-MAY-03	I
K2303331-002	North Loading Dock	WATER	19:45 01-MAY-03	19-MAY-03	I

Comments:

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Columbia Analytical Services INC.
An Employee-Owned Company

March 19, 2001 Service Request No: K2101185

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way
Seattle, WA 98124

Re: Longview Fibre (Seattle)

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on February 16, 2001. For your reference, these analyses have been assigned our service request number K2101185.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/gep

cc: Hank Rakoz, Longview Fibre Company (Longview)
Dave Mendenhall, Longview Fibre Company (Longview)

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

00003

Organics Data Review and Narrative Worksheet

Service Request: K2101185 Date: March 16, 2001

Product Code: FIQ8015 Matrix: Water

Yes ☒ No ☐	Are all samples analyzed within hold times?
Yes ☐ No ☐ NA ☒	Are all samples analyzed with GC/MS tune window?
Yes ☒ No ☐	Are all calibrations within primary evaluation criteria (including RRF checks)?
Yes ☒ No ☐	Are Second Source standards within primary evaluation criteria?
Yes ☒ No ☐	Are CCVs within primary evaluation criteria (including RRF Checks)?
Yes ☒ No ☐	Are method blanks for all methods <MRL or less than 5% of the sample results?
Yes ☐ No ☒	Are all surrogate recoveries within control criteria?
Yes ☐ No ☐ NA ☒	Are all internal standard recoveries within control criteria?
Yes ☒ No ☐	Are all spike recoveries in MS/DMS samples within control criteria?
Yes ☒ No ☐	Are all MS/DMS or DUP RPDs within control criteria?
Yes ☒ No ☐	Are all LCS recoveries within control criteria?
Yes ☐ No ☐ NA ☒	Are RPDs for LCS/DLCS within control criteria?
Yes ☒ No ☐	Are all confirmation results within advisory limits (explain all C, P, and N Flags)?
Yes ☐ No ☒	Have MRLs been achieved in all samples (note dilutions and matrix interferences)?
Yes ☒ No ☐	All results over the calibration range have been reanalyzed at a dilution?
Yes ☐ No ☒	No other discussion required (discuss X, Y, and Z flags as needed)?

For "No" responses see case narrative below.

Signature: [signature] Name: C. LANDAUER

Date: MAR 16 2001 Title: Scientist

File Path: \\C-KELSO1\REPORTS\PHC\CASENAR\HC_SCAN\01185W.DOC

00004

Data Validation Notes and Discussion

Surrogate Exceptions

The control criteria were exceeded for the following surrogate in sample West Parking Lot due to matrix interferences: o-Terphyl. The chromatogram showed components that prevented accurate quantitation of the surrogate. No further corrective action was taken.

Sample Notes and Discussion

Samples were analyzed before and after Silica Gel cleanup. Both results are reported, a "CU" suffix has been added to the Silica Gel cleanups.

Elevated MRLs

Sample West Parking Lot had to be diluted because of high level of analyte. The reporting limits have been elevated accordingly.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	2/14/01
Sample Matrix:	Water	**Date Received:**	2/16/01

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	North Loading Dock	Units:	ug/L (ppb)
Lab Code:	K2101185-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/2/01	200	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/2/01	3300	H
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	1400	F

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: MAR 16 2001

1S22/020597p

01185PHC.MM1 - 13/16/01

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	2/14/01
Sample Matrix:	Water	**Date Received:**	2/16/01

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	North Loading Dock	Units:	ug/L (ppb)
Lab Code:	K2101185-001CU	Basis:	NA
Test Notes:	X		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/13/01	1600	H
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	800	F

X *Extracts had Silica Gel Clean-up*

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: MAR 16 2001

1S22/020597p

01185PHC MM1 - 1 (2) 3/16/01

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	2/14/01
Sample Matrix:	Water	**Date Received:**	2/16/01

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	West Parking Lot	Units:	ug/L (ppb)
Lab Code: -	K2101185-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/2/01	14000	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Diesel	EPA 3510C	8015B	1000	10	2/21/01	3/2/01	67000	DH
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	7500	F

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: MAR 16 2001

1S22/020597p

01185PHC MM1 - 2 3/16/01

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Page No :

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	2/14/01
Sample Matrix:	Water	**Date Received:**	2/16/01

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	West Parking Lot	Units:	ug/L (ppb)
Lab Code:	K2101185-002CU	Basis:	NA
Test Notes:	X		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/13/01	12000	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Diesel	EPA 3510C	8015B	1000	10	2/21/01	3/14/01	66000	DF
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	4800	F

X Extracts had Silica Gel Clean-up

* *Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.*

Approved By: _____ Date: MAR 16 2001

1S22/020597p

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01185PHC MM1 - 2 (2) 3/15/01

LFC002247

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K010221-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/1/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/1/01	ND	

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: MAR 16 2001

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K010221-WBCU	Basis:	NA
Test Notes:	X		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	ND	

X Extracts had Silica Gel Clean-up

* *Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.*

Approved By: _____ Date: MAR 16 2001

1522/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Longview Fibre Company	**Service Request:**	K2101185
Project:	Longview Fibre (Seattle)	**Date Collected:**	2/14/01
Sample Matrix:	Water	**Date Received:**	2/16/01
		Date Extracted:	2/21/01
		Date Analyzed:	3/1-13/01

Surrogate Recovery Summary
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Prep Method:	EPA 3510C	Units:	PERCENT
Analysis Method:	8015B	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery		
			o-Terphenyl	4-Bromofluorobenzene	n-Triacontane
North Loading Dock	K2101185-001		72	49	72
West Parking Lot	K2101185-002		0 #	81	62
Method Blank	K010221-WB		72	53	71
North Loading Dock	K2101185-001CU		70	43	68
West Parking Lot	K2101185-002CU		0 #	68	58
Method Blank	K010221-WBCU		68	51	69
CAS Acceptance Limits:			50-150	20-150	50-150

Approved By: _____ Date: MAR 16 2001

SUR3/020597p

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Columbia Analytical Services, INC.
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

SR#: 4210185

PAGE 1 OF 1 COC #

PROJECT NAME: Longview Fibre (Seattle)
PROJECT NUMBER:
PROJECT MANAGER:
COMPANY/ADDRESS:
PHONE #: FAX #:
SAMPLER'S SIGNATURE: J. Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ 8021☐ BTEX☐ ☐Fuel Fingerprint ☐Diesel ☐Oil ☐NW-HCID Screen	Oil & Grease/TRPH 413.1☐ 418.1☐ 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	GC/MS-SIM PAH☐ Phenol☐ Phthalates☐	Metals, Total or Dissolved (See list below)	Cyanide☐	Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 506☐				REMARKS
North Loading Dock	2/14	1:30			1				X																See below
West Parking Lot	2/14	1:15			1																				" "

0013

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Please do silica gel clean up on both samples - run one with cleanup and one without.

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
J. Mantell	D. Mantell		
Signature	Signature	Signature	Signature
1/14/01	1/15/01	Date/Time	2/16/01 10:30
Date/Time	Date/Time		Date/Time
Printed Name	Printed Name	Printed Name	Keith Morrison
Firm	Firm	Firm	CAS

LFC002251

Hand Del.

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

Project/Client LFCO - Seattle Work Order K21 1185

Cooler received on 2/16/01 and opened on 2/16/01 by

1. Were custody seals on outside of cooler? YES NO
   If yes, how many and where? front.
2. Were seals intact and signature & date correct? YES NO
3. COC #
   Temperature of cooler(s) upon receipt: 18.0
   Temperature Blank:
4. Were custody papers properly filled out (ink, signed, etc.)? YES NO
5. Type of packing material present bubbles
6. Did all bottles arrive in good condition (unbroken)? YES NO
7. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
8. Did all bottle labels and tags agree with custody papers? YES NO
9. *Were the correct types of bottles used for the tests indicated?* YES NO
10. Were all of the preserved bottles received at the lab with the appropriate pH? YES NO
11. Were VOA vials checked for absence of air bubbles, and if present, noted below? YES NO
12. Did the bottles originate from CAS/K or a branch laboratory? YES NO

Explain any discrepancies

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
Samples rec'd out of temp.					AH	

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CRFREV.DOC1/2/01

Columbia Analytical Services INC.
An Employee-Owned Company

December 21, 2000 Service Request No: K2008763

Dave Mendenhall
Longview Fibre Company
300 Fibre Way
P.O. Box 639
Longview, WA 98632

Re: Longview Fibre (Seattle)

Dear Dave:

Enclosed are the results of the sample(s) submitted to our laboratory on November 08, 2000. For your reference, these analyses have been assigned our service request number K2008763.

The Diesel results are higher than the previous sample. This sample showed the same fingerprint but a much higher response.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/gep

cc: Hank Rakoz, Longview Fibre Company (Longview)
cc: Jim Mantell, Longview Fibre Company (Seattle)

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

00004

Data Validation Notes and Discussion

Elevated MRLs

Sample West Parking Lot had to be diluted due to high levels of target anaylte. The reporting limits have been elevated accordingly.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2008763
Project:	Longview Fibre (Seattle)	**Date Collected:**	11/4/00
Sample Matrix:	Water	**Date Received:**	11/8/00

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	West Parking Lot	Units:	ug/L (ppb)
Lab Code:	K2008763-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Kerosene	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Diesel	EPA 3510C	8015B	1000	10	11/10/00	11/28/00	130000	D,F
Heavy Fuel Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	9700	F

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: 12/20/00

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2008763
Project:	Longview Fibre (Seattle)	**Date Collected:**	11/4/00
Sample Matrix:	Water	**Date Received:**	11/8/00

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	North ShippingDock	Units:	ug/L (ppb)
Lab Code:	K2008763-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	11/10/00	11/28/00	560	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Kerosene	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Diesel	EPA 3510C	8015B	100	1	11/10/00	11/28/00	2700	Y
Heavy Fuel Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	1500	Z

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: 12/20/00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2008763
Project:	Longview Fibre (Seattle)	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K001110-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Kerosene	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Diesel	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	ND	

* Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: _____ Date: 12/21/00

00008

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Longview Fibre Company	**Service Request:**	K2008763
Project:	Longview Fibre (Seattle)	**Date Collected:**	11/4/00
Sample Matrix:	Water	**Date Received:**	11/8/00
		Date Extracted:	11/10/00
		Date Analyzed:	11/16/00

Surrogate Recovery Summary
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Prep Method:	EPA 3510C	Units:	PERCENT
Analysis Method:	8015B	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery		
			o-Terphenyl	4-Bromofluorobenzene	n-Triacontane
West Parking Lot	K2008763-001		107	76	97
North Shipping dock	K2008763-002		81	56	78
Method Blank	K001110-WB		97	77	91
CAS Acceptance Limits:			50-150	D-141	50-150

Approved By: _____ Date: 12/20/00

00009

CHAIN OF CUSTODY

Analytical Services INC.
An Employee-Owned Company

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SR#: K2008163

PAGE 1 OF 1 COC #

PROJECT NAME: Longview Fibre (Seattle)
PROJECT NUMBER:
PROJECT MANAGER:
COMPANY/ADDRESS:
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (* see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 413.1☐ 418.1☐ 1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	GC/MS-SIM PAH☐ Phenol☐ Phthalates☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 506☐					REMARKS
West Poling Lot	11/4	11:00	1		1																					
North Shipping Dock	11/4	9:45	2		1																					

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Jim Mentell	D MacDonell		
Signature	Signature	Signature	Signature
11/4/00	11/8/00		11/8/00 1400
Date/Time	Date/Time	Date/Time	Date/Time
Printed Name	Printed Name	Printed Name	G PAYNTER
Firm	Firm	Firm	Firm CAS

RCOC #1 12/99

LFC002262

Columbia Analytical Services INC.
An Employee-Owned Company

October 20, 2000 Service Request No: K2007510

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way
Seattle, WA 98124

Re: Seattle Box Plant (Groundwater)

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on September 26, 2000. For your reference, these analyses have been assigned our service request number K2007510.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/gl

cc: Hank Rakoz @ Longview Fibre
Dave Mendenhall @ Longview Fibre

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2007510
Project:	Seattle Box Plant (Groundwater)	**Date Collected:**	9/21/00
Sample Matrix:	Water	**Date Received:**	9/26/00

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	North Loading Dock	Units:	ug/L (ppb)
Lab Code:	K2007510-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Kerosene	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Diesel	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
PHC as Diesel	EPA 3510C	8015B	250	1	9/27/00	10/11/00	5500	
Non-PHC as Diesel	EPA 3510C	8015B	500	1	9/27/00	10/11/00	ND	

*	Semi-quantitative. Results are expected to exhibit a low bias due to the extraction procedure.
PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _____ Date: 10/9/00

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2007510
Project:	Seattle Box Plant (Groundwater)	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K000927-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Kerosene	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Diesel	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
PHC as Diesel	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Non-PHC as Diesel	EPA 3510C	8015B	500	1	9/27/00	10/11/00	ND	

*	Semi-quantitative. Results are expected to exhibit a low bias due to the extraction procedure.
PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _____ Date: 11/19/00

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Longview Fibre Company	**Service Request:**	K2007510
Project:	Seattle Box Plant (Groundwater)	**Date Collected:**	9/21/00
Sample Matrix:	Water	**Date Received:**	9/26/00
		Date Extracted:	9/27/00
		Date Analyzed:	10/11/00

Surrogate Recovery Summary
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Prep Method:	EPA 3510C	Units:	PERCENT
Analysis Method:	8015B	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery		
			o-Terphenyl	4-Bromofluorobenzene	n-Triacontane
West Parking Lot	K2007510-001		75	60	80
North Loading Dock	K2007510-002		79	47	82
Method Blank	K000927-WB		70	54	80
CAS Acceptance Limits:			50-150	D-141	50-150

Approved By: _____ Date: 10/19/00

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Organics Data Review and Narrative Worksheet

Service Request: K2007510 Date: October 17, 2000

Product Code: FIQ8015 Matrix: Water

Yes ☒ No ☐	Are all samples analyzed within hold times?
Yes ☐ No ☐ NA ☒	Are all samples analyzed with GC/MS tune window?
Yes ☒ No ☐	Are all calibrations within primary evaluation criteria (including RRF checks)?
Yes ☒ No ☐	Are Second Source standards within primary evaluation criteria?
Yes ☒ No ☐	Are CCVs within primary evaluation criteria (including RRF Checks)?
Yes ☒ No ☐	Are method blanks for all methods <MRL or less than 5% of the sample results?
Yes ☒ No ☐	Are all surrogate recoveries within control criteria?
Yes ☐ No ☐ NA ☒	Are all internal standard recoveries within control criteria?
Yes ☒ No ☐	Are all spike recoveries in MS/DMS samples within control criteria?
Yes ☒ No ☐	Are all MS/DMS or DUP RPDs within control criteria?
Yes ☒ No ☐	Are all LCS recoveries within control criteria?
Yes ☐ No ☐ NA ☒	Are RPDs for LCS/DLCS within control criteria?
Yes ☒ No ☐	Are all confirmation results within advisory limits (explain all C, P, and N Flags)?
Yes ☐ No ☒	Have MRLs been achieved in all samples (note dilutions and matrix interferences)?
Yes ☒ No ☐	All results over the calibration range have been reanalyzed at a dilution?
Yes ☒ No ☐	No other discussion required (discuss X, Y, and Z flags as needed)?

For "No" responses see case narrative below.

Signature: _____ Name: _____

Date: 11/19/00 Title: _____

File Path: R:\PHC\CASENAR\HC_SCAN\07510W.DOC

00064

Data Validation Notes and Discussion

Elevated MRLs

Sample K2007510-001 had to be diluted because of high levels of target analyte. The reporting limits have been elevated accordingly.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2007510
Project:	Seattle Box Plant (Groundwater)	**Date Collected:**	9/21/00
Sample Matrix:	Water	**Date Received:**	9/26/00

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:	West Parking Lot	Units:	ug/L (ppb)
Lab Code:	K2007510-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Kerosene	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Diesel	EPA 3510C	8015B	1000	10	9/27/00	10/12/00	14000	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	1300	
PHC as Diesel	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Non-PHC as Diesel	EPA 3510C	8015B	500	1	9/27/00	10/11/00	ND	

*	Semi-quantitative. Results are expected to exhibit a low bias due to the extraction procedure.
PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _____ Date: 10/19/00

1S22/020597p

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

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SR#: K2007510

PAGE 1 OF 1 COC #

PROJECT NAME: Seattle Box Plant (Groundwater)
PROJECT NUMBER:
PROJECT MANAGER: Jim Mantell
COMPANY/ADDRESS: 5901 E. Marginal Way Seattle, WA
PHONE #: 206-762-7170 FAX #: 206-767-2442
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 413.1☐ 418.1☐	1664 SGT☐ 1664 HEM☐	PCB's Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081A☐ 8141A☐ 8151A☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHS 8310☐ SIM☐	GC/MS-SIM PAH☐ Phenol☐ Phthalates☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 506☐				REMARKS
West Parking Lot	9/21	10:30																						
North Loading Dock	9/21	10:30																						

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

NWTPH
Run Full Scan FIQ
Emm
9/26/00

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
D.N. Mendenhall	Lori L Hamm		
Signature	Signature	Signature	Signature
9/26/00	9/26/00 1400	Date/Time	Date/Time
Date/Time			
D.N. Mendenhall	LORI L HAMM	Printed Name	Printed Name
Printed Name			
LPCO	LAS	Firm	Firm
Firm			

LFC002272

Columbia Analytical Services INC.
An Employee-Owned Company

March 7, 2000 Service Request No: K2001203

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way
Seattle, WA 98124

Re: Quarterly Groundwater

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on February 22, 2000. For your reference, these analyses have been assigned our service request number K2001203.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/ll

cc: Hank Rakoz, Longview Fibre (Longview)
Dave Mendenhall, Longview Fibre (Longview)

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/ 577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	*Selected Ion Monitoring*
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Longview Fibre Co.	**Service Request No.:**	K2001203
Project:	Seattle Box Plant Wells	**Date Received:**	2/22/00
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for sample(s) designated for Tier I {tierlevel} data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

All EPA recommended holding times have been met for analyses in this sample delivery group.

The following difficulties were experienced during analysis of this batch:

The surrogate recoveries for NWTPH-Dx in the West Parking Lot sample were outside normal CAS control limits because of matrix interference. The chromatogram showed components that prevented accurate quantitation of the surrogate. No further corrective action was taken.

The North Loading Dock sample contained petroleum hydrocarbon material which could not be conclusively identified as to the type of PHC. It was quantitated as though it were diesel.

Approved by EMW **Date** 3/7/00

00063

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2001203
Project:	Quarterly Groundwater	**Date Collected:**	2/17/00
Sample Matrix:	Water	**Date Received:**	2/22/00

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	#1 North Loading Dock	Units:	ug/L (ppb)
Lab Code:	K2001203-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	4000	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	

PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMenthe Date: 3/6/00

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2001203
Project:	Quarterly Groundwater	**Date Collected:**	2/17/00
Sample Matrix:	Water	**Date Received:**	2/22/00

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	#2 West Parking Lot	Units:	ug/L (ppb)
Lab Code:	K2001203-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	2500	10	2/23/00	2/24/00	160000	C
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	10000	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	

C	The MRL is elevated because the sample required diluting.
PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMarthe Date: 3/6/00

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2001203
Project:	Quarterly Groundwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K000223-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	

PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMcarthe Date: 3/6/00

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Longview Fibre Company
Project: Quarterly Groundwater
Sample Matrix: Water

Service Request: K2001203
Date Collected: 2/17/00
Date Received: 2/22/00
Date Extracted: 2/23/00
Date Analyzed: 2/24/00

Surrogate Recovery Summary
Northwest TPH-Dx

Prep Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery o-Terphenyl	Percent Recovery n-Triacontane
#1 North Loading Dock	K2001203-001		112	118
#2 West Parking Lot	K2001203-002		0 A	182 A
Method Blank	K000223-WB		99	107
CAS Acceptance Limits:			50-150	50-150

A Outside acceptance limits; see case narrative.

Approved By: MMarthe Date: 3/6/00

SUR2/061197p
01203PHC.ESI - SUR 3/3/00

Columbia Analytical Services INC.
An Employee-Owned Company

February 23, 1999 Service Request No: K9900744

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way
Seattle, WA 98124

Re: Seattle Groundwater

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on February 5, 1999. For your reference, these analyses have been assigned our service request number K9900744.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 268.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eileen M. Arnold
Project Chemist

EMA/br

Page 1 of 5

cc: Dave Mendenhall, LVF
Hank Rakoz, LVF

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EPA	U. S. Environmental Protection Agency
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GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
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MPN	Most Probable Number
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NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9900744
Project:	Seattle Groundwater	**Date Collected:**	2/4/99
Sample Matrix:	Water	**Date Received:**	2/5/99
		Date Extracted:	NA
		Date Analyzed:	2/11/99

BTEX
EPA Methods 5030A/8020A
Units: µg/L (ppb)

Analyte:		**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
Method Reporting Limit:		0.5	1	1	1
Sample Name	**Lab Code**				
AF122977	K9900744-001	ND	ND	ND	ND
AF123017	K9900744-002	ND	ND	ND	ND
Method Blank	K991211-MB	ND	ND	ND	ND

Approved By: _____ Date: 2-19-99

4A/102194
00744VOA.KP1 - BTEXs 2/17/99

00003
Page No:

LFC002282

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Longview Fibre Company
Project: Seattle Groundwater
Sample Matrix: Water

Service Request: K9900744
Date Collected: 2/4/99
Date Received: 2/5/99
Date Extracted: NA
Date Analyzed: 2/11/99

Surrogate Recovery Summary
BTEX
EPA Methods 5030A/8020A

Sample Name	Lab Code	Percent Recovery 1,4-Difluorobenzene
AF122977	K9900744-001	96
AF123017	K9900744-002	97
Method Blank	K991211-MB	97

CAS Acceptance Limits: 70-130

Approved By: _____ Date: 2-19-99

SUR1/111594
00744VOA KP1 - BTEXsSUR 2/17/99

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Columbia Analytical Services, Inc. 1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

DATE _____ PAGE _____ OF _____

PROJECT NAME SEATTLE GROUND WATER

PROJECT MANAGER Jim MANTELL

COMPANY/ADDRESS 5201 E. MARGINAL WAY S

LONGVIEW FIBRE CO.

FAX 206-767-2442 PHONE 206-762-7170

SAMPLERS SIGNATURE James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240	Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐	Pesticides/PCBs 608/8080	Total Petroleum Hydrocarbons EPA418.1 ☐ OR418.1 ☐ WA418.1 ☐	TPH/Gas/BTEX 5030/8015/8020 Gas ☐ BTEX ☐	TPH/8015 Modified Diesel ☐ Hydrocarbon Scan ☐	TPH/HCID ☐ OR/HCID ☐ WA/HCID ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐ Pest/Herb ☐	Metals (total or dissolved) List Below	Cyanide	pH, Cond, Cl, SO_4, PO_4, F, Br	NO_2, NO_3, (circle)	NH_3-N, COD, Total-P, TKN, TOC (circle)	Total Organic Halides (TOX) 9020 ☐ (AOX) 1650A ☐			REMARKS
AF 122977	2/4	12:15																						
AF 123017	2/4	12:30																						

5 0000

RELINQUISHED BY:

Signature James R Mantell

Printed Name Jim MANTELL

Firm Longview Fibre Co.

Date/Time

RECEIVED BY:

Signature Debi Wood

Printed Name Debi Wood

Firm CASTELSO

Date/Time 2/5/99 1000

RELINQUISHED BY:

Signature

Printed Name

Firm

Date/Time

RECEIVED BY:

Signature

Printed Name

Firm

Date/Time

TURNAROUND REQUIREMENTS

___ 24 hr ___ 48 hr. ___ 5 day

___ Standard (10-15 working days)

___ Provide Verbal Preliminary Results

___ Provide FAX preliminary Results

Requested Report Date _____

REPORT REQUIREMENTS

___ I. Routine Report

___ II. Report (includes DUP.MS. MSD, as required, may be charged as samples)

___ III. Data Validation Report (includes All Raw Data)

___ IV. CLP Deliverable Report

INVOICE INFORMATION:

P.O.# _____

Bill To _____

SAMPLE RECEIPT:

Shipping VIA: _____

Shipping #: _____

Condition: _____

Lab No. K9900744

SPECIAL INSTRUCTIONS/COMMENTS:

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

400-05

LFC002284

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K9902936. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (1101)
14-MAY-99 09:20

Service Req. No. K9902936 Project No. Bottles: 1 - Other
Client No. 125855 Project Name 2 - Single VOA
Client Name Longview Fibre Company

Bill To: Longview Fibre Company
Western Container Division
Attn: Accounts Payable
P.O. Box 9069
Yakima, WA 98909

Report To: Longview Fibre Company
Jim Mantell
5901 E. Marginal Way S.
Seattle, WA 98124

P.O. No. LV038893 L Site ID
Logged In By FADAIR Project Chemist Ed Wallace
ISR Num
COC Received N
Samples Submitted 11-MAY-99 Storage: MISTY HERK H2

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	DX-NWTPH	ICP-4	PB/GFAA	-DIGEST
K9902936-001	Shipping Dock Well	H2O	08-MAY-99	25-MAY-99	1			
K9902936-002	West Parking Lot	H2O	08-MAY-99	25-MAY-99	1			
K9902936-003	4/28/99 Water	H2O	08-MAY-99	25-MAY-99		1	1	1

Comments:

K9902936 LIMITED SAMPLE VOLUME!!!
K9902936 CC: Tim Lutzo-Seattle
K9902936 ICP-4: = Cr,Cu,Fe,Zn.

125855 cc: Hank Rakoz

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Columbia Analytical

AF 122976 SHIPPING DOCK

AF 123015 WEST PARKING LOT

Samples taken 5/8/99

No chain of Custody / Laboratory Analysis Request form sent with Cooler.

L. Mills

Samples sent UPS 5/10/99

Columbia Analytical Services, Inc.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

DATE_____ PAGE _____ OF_____

PROJECT NAME SEATTLE, GROUND WATER

PROJECT MANAGER JIM MANTELL

COMPANY/ADDRESS 5901 E. MARGINAL WAY S

LONGWATER FIBRE CO.

FAX 206-767-2442 PHONE 206-762-7170

SAMPLERS SIGNATURE [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240	Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐	Pesticides/PCBs 608/8080	Total Petroleum Hydrocarbons EPA/418.1 ☐ ORI418.1 ☐ WA/418.1 ☐	TPH/Gas/BTEX 5030/8015/8020 Gas ☐ BTEX ☐	TPH/8015 Modified Diesel ☐ Hydrocarbon Scan ☐	TPH/HCID ☐ OR/HCID ☐ WA/HCID ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐ Pest/Herb ☐	Metals (total or dissolved) List Below	Cyanide	pH, Cond, Cl, SO_4, PO_4, F, Br NO_2, NO_3, (circle)	NH_3-N, COD, Total-P, TKN, TOC (circle)	Total Organic Halides (TOX) 9020 ☐ (AOX) 1650A ☐			REMARKS
AF 122977	3/4	1315																				
AF 122978	3/4	1230																				

RELINQUISHED BY:

Signature [signature]

Printed Name JIM MANTELL

Firm LONGVIEW FIBRE CO.

Date/Time

RECEIVED BY:

Signature

Printed Name

Firm

Date/Time

TURNAROUND REQUIREMENTS

____ 24 hr ____ 48 hr. ____ 5 day

____ Standard (10-15 working days)

____ Provide Verbal Preliminary Results

____ Provide FAX preliminary Results

Requested Report Date _____

REPORT REQUIREMENTS

____ I. Routine Report

____ II. Report (includes DUP.MS. MSD, as required, may be charged as samples)

____ III. Data Validation Report (includes All Raw Data)

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P.O.# _____

Bill To _____

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Shipping VIA: _____

Shipping #: _____

Condition: _____

Lab No: _____

RELINQUISHED BY:

Signature

Printed Name

Firm

Date/Time

RECEIVED BY:

Signature

Printed Name

Firm

Date/Time

SPECIAL INSTRUCTIONS/COMMENTS:

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

400-05

LFC002288

Columbia Analytical

1-800-695-7222

1-360-577-7222

FAX 1-360-636-1068

Kyle Hale

Robert M. Arnold

Ed Wallace Ex

Columbia Analytical Services, Inc.
An Employee-Owned Company

May 25, 1999 Service Request No: K9902936

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way
Seattle, WA 98124

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on May 11, 1999. For your reference, these analyses have been assigned our service request number K9902936.

There were hits for diesel and lube oil in these samples. Previous analyses on these wells were for BTEX which are gasoline components and not found in diesel.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/klg

cc: Hank Rakoz, [Longview]
Dave Mendenhall, [Longview]

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/577-7222 • Fax 360/636-1068

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ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
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J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
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SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9902936
Project:	NA	**Date Collected:**	5/8/99
Sample Matrix:	Water	**Date Received:**	5/11/99
		Date Extracted:	5/18/99

Total Metals
Units: µg/L (ppb)

			Sample Name:	**4/28/99 Water**	**Method Blank**
			Lab Code:	K9902936-003	K9902936-MB
			Date Analyzed:	5/18, 19/99	5/18, 19/99
Analyte	**EPA Method**	**MRL**			
Chromium	6010B	5		ND	ND
Copper	6010B	10		ND	ND
Iron	7421	2		28	ND
Lead	6010B	50		ND	ND
Zinc	6010B	10		2190	ND

Approved By: _____ Date: 5/21/99

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9902936
Project:	NA	**Date Collected:**	5/8/99
Sample Matrix:	Water	**Date Received:**	5/11/99

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	Shipping Dock Well	Units:	ug/L (ppb)
Lab Code:	K9902936-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	1360	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	2530	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	

PHC as Diesel Fuel: *Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.*
Non-PHC as Diesel: Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMarthe Date: 5/24/99

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9902936
Project:	NA	**Date Collected:**	5/8/99
Sample Matrix:	Water	**Date Received:**	5/11/99

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	West Parking Lot	Units:	ug/L (ppb)
Lab Code:	K9902936-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	5940	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	975	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	

PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMarthe Date: 5/24/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9902936
Project:	NA	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K990515-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	

PHC as Diesel Fuel: Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel: Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMarthe Date: 5/24/99

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Longview Fibre Company
Project: NA
Sample Matrix: Water

Service Request: K9902936
Date Collected: 5/8/99
Date Received: 5/11/99
Date Extracted: 5/15/99
Date Analyzed: 5/18/99

Surrogate Recovery Summary
Northwest TPH-Dx

Prep Method: EPA 3510C
Analysis Method: NWTPH-Dx

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery o-Terphenyl	Percent Recovery n-Triacontane
Shipping Dock Well	K9902936-001		79	83
West Parking Lot	K9902936-002		74	77
Method Blank	K990515-WB		81	83
CAS Acceptance Limits:			50-150	50-150

Approved By: MMarthe Date: 5/24/99

SUR2/061197p
02936PHCLL1 - SUR 5/19/99

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2007510. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

LFCo. Lab Service Memorandum No. 11058

Date: 28 Sept. 2000

Subject: Seattle Boxplant Sludge

Keywords: Lead, zinc, TCLP, total metals

Requested by: Steve Frase **Performed by:** Colleen Roulette

Source and Description of Sample:

A sample of solid sludge, dated 9/21/00, from Seattle Boxplant water treatment press was sent in for analysis.

Analytical Methods and Procedures:

Total recoverable metals were determined using the NIOSH method. TCLP was determined by EPA method No. 1311.

Results:

Sample	% by Weight	TCLP ppm
Lead	0	0
Zinc	0	1.8

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (1101)
27-SEP-00 10:37

Service Req. No.	K2007510	Project No.		Bottles: 2 - 500 ml Amber
Client No.	125855	Project Name	Seattle Box Plant (Groundwater)	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Jim Maritell 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LV035801 L	Site ID		
Logged In By	LHAWN	Project Chemist		
ISR Num				
COC Received	Y			
Samples Submitted	26-SEP-00			Storage: HERK A4

CAS Samp No.	Client Samp.e No.	Matrix	Collected DueDate	FIQB315
K2007510-001	West Parking Lot	WATER	21-SEP-00 10-OCT-00	I
K2007510-002	North Loading Dock	WATER	21-SEP-00 10-OCT-00	

Comments:

125855 cc: Hank Rabox.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2007510. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (iLOI)
27-SEP-00 10:37

Service Req. No. K2007510 [illegible] Project No. Bottles: 2 - 500 ml Amber
Client No. 125855 Project Name Seattle Box Plant (Groundwater)
Client Name Longview Fibre Company

Bill To: Longview Fibre-Seattle Box Plant
Attn: Accounts Payable
5901 E. Marginal Way S.
Seattle, WA 98124

Report To: Longview Fibre Company
Jim Hankell
5901 E. Marginal Way S.
Seattle, WA 98124

P.O. No. LV003980 L Site ID
Logged In By LUANN Project Chemist Ed Wallace
LSR Num
DOC Received Y
Samples Submitted 26-SEP-00 Storage: HERK A4

CAS Samp No.	Client Samp.e No.	Matrix	Collected	DueDate	FIQ8015
K2007510-001	West Parking Lot	WATER	21-SEP-00	10-OCT-00	L
K2007510-002	North Loading Dock	WATER	21-SEP-00	10-OCT-00	[illegible]

Comments:

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ SOME__

Reviewed By:_____

Columbia Analytical Services INC.
An Employee-Owned Company

June 2, 2000 Service Request No: K2003723

Dave Mendenhall
Longview Fibre Company
300 Fibre Way
P.O. Box 639
Longview, WA 98632

Re: Seattle Box Plant (GW Samples)

Dear Dave:

Enclosed are the results of the sample(s) submitted to our laboratory on May 18, 2000. For your reference, these analyses have been assigned our service request number K2003723.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace
Project Chemist

EW/dj

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/ 577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
X	See case narrative.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2003723
Project:	Seattle Box Plant (GW Samples)	**Date Collected:**	5/12/00
Sample Matrix:	Water	**Date Received:**	5/18/00

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	West Parking Lot	Units:	ug/L (ppb)
Lab Code:	K2003723-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	2500	10	5/19/00	5/23/00	77000	i
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	3900	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	

PHC as Diesel Fuel: Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel: Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _____ Date: 6/7/00

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2003723
Project:	Seattle Box Plant (GW Samples)	**Date Collected:**	5/12/00
Sample Matrix:	Water	**Date Received:**	5/18/00

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	North Shipping Dock	Units:	ug/L (ppb)
Lab Code:	K2003723-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	3000	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	980	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	

PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _____ Date: 6/2/00

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K2003723
Project:	Seattle Box Plant (GW Samples)	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Petroleum Products
Northwest TPH-Dx

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	K000519-WB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	

PHC as Diesel Fuel: Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.
Non-PHC as Diesel: Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _____ Date: 6/7/00

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Longview Fibre Company	**Service Request:**	K2003723
Project:	Seattle Box Plant (GW Samples)	**Date Collected:**	5/12/00
Sample Matrix:	Water	**Date Received:**	5/18/00
		Date Extracted:	5/19/00
		Date Analyzed:	5/22/00

Surrogate Recovery Summary
Northwest TPH-Dx

Prep Method:	EPA 3510C	Units:	PERCENT
Analysis Method:	NWTPH-Dx	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery o-Terphenyl	Percent Recovery n-Triacontane
West Parking Lot	K2003723-001		62	105
North Shipping Dock	K2003723-002		59	62
Method Blank	K000519-WB		73	74
CAS Acceptance Limits:			50-150	50-150

Approved By: _____ Date: 6/2/05

00007

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

SR#: K2003723

PAGE 1 OF 1 COC #

PROJECT NAME: Seattle Box Plant (GW samples)
PROJECT NUMBER:
PROJECT MANAGER: Jim Mantell
COMPANY/ADDRESS: Longview Fibre Co.
Seattle, WA
PHONE #: FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐	Volatile Organics 624 ☐ 8260 ☐	Hydrocarbons (*see below) Gas ☐	8021 ☐ BTEX ☐ Diesel ☐	Oil ☐ Fuel Fingerprint (FIQ) ☐	NW-HCID Screen ☐	Oil & Grease/TRPH 413.1 ☐ 418.1 ☐	1664 SGT ☐ 1664 HEM ☐	PCB's Aroclors ☐	Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐	8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	GC/MS-SIM PAH ☐	Phenol ☐ Phthalates ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐	Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020 ☐	AOX 1650 ☐ 505 ☐					REMARKS
West Parking lot	5/12	3:00	1		1			X																										
North Shipp. Bldg	5/12	3:30	2		1			X																										

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER:_____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
Send Results to DAVE Mandenhall LFCo (Longview)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Jim Mantell	Signature: Debi Wood	Signature:	Signature:
Date/Time: 5/12	Date/Time: 5/18/00 0930	Date/Time:	Date/Time:
Printed Name:	Printed Name: Debi Wood	Printed Name:	Printed Name:
Firm: LFCo	Firm: CAS-Kelso	Firm:	Firm:

LFC002309

Columbia Analytical Services, Inc.

July 11, 1996 Service Request No.: K9603751

Sonny Bivins
Longview Fibre Company
5901 E Marginal Way
Seattle, WA 98124

Dear Sonny:

Enclosed are the results of the sample(s) submitted to our laboratory on June 25, 1996. For your reference, these analyses have been assigned our service request number K9603751.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 230.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eileen M. Arnold
Project Chemist

EMA/ll

cc: Dave Mendenhall, Fibre/Longview
Hank Rakoz, Fibre/Longview

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-1068

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9603751
Project:	NA	**Date Collected:**	6/24/96
Sample Matrix:	Water	**Date Received:**	6/25/96
		Date Extracted:	NA

Inorganic Parameters
Units: mg/L (ppm)

Analyte:	pH (units)	Biochemical Oxygen Demand (5-Day)	Chemical Oxygen Demand (COD)	Solids, Total Suspended (TSS)	Carbon, Total Organic (TOC)
EPA Method:	150.1	405.1	410.2	160.2	415.1
Method Reporting Limit:	-	4	5	5	0.5
Date Analyzed:	6/25/96	6/26/96	7/3/96	6/28/96	7/4/96
Sample Name / **Lab Code**					
Stormwater / K9603751-001	6.72	7	86	ND	27.9
Method Blank / K9603751-MB	-	-	ND	ND	ND

Approved By: _____ Date: 7/9/96

SA5MJ120294

03751WET.LJ1 - STests 7/9/96

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Longview Fibre Company	**Service Request:**	K9603751
Project:	NA	**Date Collected:**	6/24/96
Sample Matrix:	Water	**Date Received:**	6/25/96
		Date Extracted:	7/1/96

Total Metals
Units: µg/L (ppb)

		Sample Name:	**Stormwater**	**Method Blank**
		Lab Code:	K9603751-001	K9603751-MB
		Date Analyzed:	7/2/96	7/2/96
Analyte	**EPA Method**	**MRL**		
Arsenic	7060	5	ND	ND
Barium	6010A	5	76	ND
Cadmium	6010A	4	ND	ND
Chromium	6010A	5	ND	ND
Lead	7421	2	ND	ND
Mercury	7471	0.5	ND	ND
Selenium	7740	5	ND	ND
Silver	6010A	10	ND	ND

Approved By: _____ Date: 7/9/96

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Longview Fibre Company
Project: NA
Sample Matrix: Water

Service Request: K9603751
Date Collected: 6/24/96
Date Received: 6/25/96
Date Extracted: 7/1/96
Date Analyzed: 7/1/96

Oil and Grease
EPA Method 413.1
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
Stormwater	K9603751-001	5	ND
Method Blank	K960701-MB	5	ND

Approved By: Nan Law Date: 7/8/96

1AMRL/102594
03751PHC GB1 - 413w 7/8/96

Columbia Analytical Services, Inc.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

DATE _____ PAGE _____ OF 1L3751

PROJECT NAME Longview Fibre Co. (206) 762-7170

PROJECT MANAGER Sonny Billings

COMPANY/ADDRESS 5901 E. Marginal Way S.

(206) 762-7170

PHONE

SAMPLERS SIGNATURE

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240	Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐	Pesticides/PCBs 608/8080	Total Petroleum Hydrocarbons EPA 418.1 ☐ OR/418.1 ☐ WA/418.1 ☐	TPH/Gas/BTEX 5030/8015/8020 Gas ☐ BTEX ☐	TPH/8015 Modified Diesel ☐ Hydrocarbon Scan ☐	TPH/HCID ☐ WA/HCID ☐ OR/HCID ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐ Pest/Herb ☐	Metals (total or dissolved) List Below	Cyanide	pH, Cond, Cl, SO_4, PO_4, F, Br NO_2, NO_3 (circle)	NH_3-N, COD, Total-P, TKN, TOC (circle)	Total Organic Halides (TOX) 9020 ☐ (AOX) 1650A ☐			REMARKS
																						sample labeled Stormwater 6/24

RELINQUISHED BY:
Signature
Robert P. Colin
Printed Name
Longview Fibre Co.
Firm
6-24-96
Date/Time

RECEIVED BY:
Ruth Higley
Signature
Ruth Higley
Printed Name
CAS
Firm
6/25/96 0930
Date/Time

TURNAROUND REQUIREMENTS
___ 24 hr ___ 48 hr. ___ 5 day
___ Standard (10-15 working days)
___ Provide Verbal Preliminary Results
___ Provide FAX preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
___ I. Routine Report
___ II. Report (includes DUP.MS. MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ IV. CLP Deliverable Report

INVOICE INFORMATION:
P.O.# _____
Bill To _____

SAMPLE RECEIPT:
Shipping VIA: _____
Shipping #: _____
Condition: _____
Lab No: _____

RELINQUISHED BY:
Signature
Robert P. Colin
Printed Name
Longview Fibre Co.
Firm
6-24-96
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

SPECIAL INSTRUCTIONS/COMMENTS:

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

400-05

LFC002315

Longview Fibre Company
Value-Added Products • Sustainable Forestry

March 4, 2003

Mr. John Bails
Washington State Department of Ecology
Northwest Regional Office
3190-160th Ave. SE
Bellevue, WA 98008

RE: Longview Fibre Company, Seattle Box Plant, 5901 E. Marginal Way S, Seattle
Ecology LUST #3449

Dear Mr. Bails:

Longview Fibre Company received a letter from Mr. Joseph Crossland of Ecology's Toxics Cleanup Program on February 26, 2003. This letter was regarding the status of our company's clean up effort at our facility in Seattle, Washington. I'm pleased to tell you that we have continued to monitor the groundwater at this location and am providing you with copies of the last 3 years of data. Passive remediation has continued at this location since the last active remediation occurred in February of 1996.

This has been a long process and we would appreciate a change in the status of the cleanup. A "No Further Action" status or even a change in the required amount of sampling and testing would be greatly appreciated. We do not intend to do any further removal of soils as any contamination that still exists is under the building and inaccessible.

Any comments or questions should be directed to me. We look forward to your re-evaluation of the site.

Sincerely,

David N. Mendenhall
Sr. Water Quality Engineer
Longview Fibre Company
Longview Washington

Cc: Tom Craig, LV-Seattle

		Seattle's Monitoring well Results		
		(PPM)		
	Location	Gasoline	Diesel	Lube Oil
Date				(Residual)
5/1/1999	Loading Dock	NR	1.36	2.53
	West Parking Lot	NR	5.94	0.98
3/1/2000	Loading Dock	NR	4.00	ND
	West Parking Lot	NR	160.00	10.00
6/01/2000	Loading Dock	NR	3.00	0.98
	West Parking Lot	NR	77.00	3.00
9/01/2000	Loading Dock	NR	ND	ND
	West Parking lot	NR	14.00	1.30
11/1/2000	Loading Dock	0.56	2.70	1.50
	West Parking Lot	ND	130.00	9.70
2/01/2001	Loading Dock	0.20	3.30	1.40
	West Parking Lot	14.00	67.00	7.50
5/01/2001	Loading Dock	ND	1.90	0.93
	West Parking lot	6.70	39.00	4.20
9/01/2001	Loading Dock	0.20	3.10	2.00
	West Parking Lot	5.60	280.00	2.60
12/1/2001	Loading Dock	ND	2.10	3.00
	West Parking lot	14.00	92.00	8.90
2/1/2002	N. Loading Dock	NR	2.20	1.60
	West Parking lot	NR	52.0	6.40
5/1/2002	N. Loading Dock	NR	4.50	2.00
	West Parking lot	NR	35.0	4.30
7/01/2002	N. Loading Dock	NR	2.0	0.96
	West Parking Lot	NR	66.0	8.60
12/1/2002	N. Loading Dock	NR	4.1	2.00
	West Parking Lot	NR	41.0	5.80

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2209290. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

~~Sonny Bivins~~ JIM MANTELL
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2107247. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

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Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (ilo1)
05-OCT-01 11:55

Service Req. No.	K2107247	Project No.		Bottles: 2 - 500 ml Amber
Client No.	125855	Project Name	Longview Fibre Seattle	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Sonny Bivins 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LV039801 L	Site ID		
Logged In By	FADAIR	Project Chemist	Ed Wallace	
ISR Num				
COC Received	Y			
Samples Submitted	02-OCT-01			Storage: SAM 50

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	FIQ8015
K2107247-001	West Parking Lot	WATER	15:45 28-SEP-01	16-OCT-01	I
K2107247-002	North Shipping Deck	WATER	16:00 28-SEP-01	16-OCT-01	I

Comments:

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

Subject: [Fwd: Groundwater testing]
Date: Mon, 14 Feb 2000 09:01:18 -0800
From: "Craig, Tom D." <tdcraig@longfibre.com> **Internal**
To: "Rebecca J. Poupore" <rjpoupore@longfibre.com>

copy Jim and me.

Subject: Groundwater testing
Date: Fri, 11 Feb 2000 14:45:31 -0800
From: "Mendenhall, Dave N." <dnmendenhall@longfibre.com>
To: "Craig, Tom D." <tdcraig@longfibre.com>

Tom-
Please pass this along to Jim. CAS has no record of samples sent last September. I have had them set it up to send you quarterly sample bottles for samples. There should only be two sample bottles per test, one for each well. Send the full bottles directly to me and I will see that they get to CAS. You should get your first set of bottles for this year shortly. We need to get at least another years worth of quarterly samples before we can ask the agencies to stop requiring these tests. Please do your best at getting the samples taken and sent to me as soon as possible after you receive the empty bottles.

Thanks for your help and cooperation on this. If you have any questions please call.

Dave

ACKNOWLEDGMENT OF

RECEIPT OF SAMPLES

TO:

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist
Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2301907. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

* During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso
INTERNAL LOGIN SUMMARY REPORT (il01)
18-MAR-03 12:40

Service Req. No.	K2301907	Project No.		Bottles: 2 - 500 ml Amber
Client No.	125855	Project Name	Seattle Groundwater	
Client Name	Longview Fibre Company			
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Fibre Company Jim Mantell 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No.	LV040784 L	Site ID		
Logged In By	APAYNTER	Project Chemist	Ed Wallace	
ISR Num				
COC Received	Y			
Samples Submitted	13-MAR-03			Storage: SAMSON 46

CAS Samp No.	Client Sample No.	Matrix	Collected	DueDate	DX-NWTPH
K2301907-001	West Parking Lot	WATER	00:00 10-MAR-03	27-MAR-03	I
K2301907-002	North Loading Dock	WATER	00:00 10-MAR-03	27-MAR-03	I

Comments:

125855 cc: Hank Rakoz.

Samples Found To Be Hazardous: NONE__ ALL__ *SOME__

Reviewed By:_____

1317 South 13th Avenue P.O. Box 479 Kelso, Washington 98626 (360) 577-7222 ph (360) 425-9096 fax

Columbia Analytical Services INC
An Employee - Owned Company

April 16, 2003 Service Request No: K2301907

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Groundwater

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on March 13, 2003. For your reference, these analyses have been assigned our service request number K2301907.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace
Project Chemist

EW/jeb

cc: Dave Mendenhall, Longview Fibre
Hank Rakoz, Longview Fibre

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Longview Fibre Company	**Service Request No.:**	K2301907
Project:	Seattle Groundwater	**Date Received:**	3/13/03
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

samples were received for analysis at Columbia Analytical Services on 3/13/03. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were upon receipt at the laboratory.

Diesel Range and Residual Range Organics by NWTPH-Dx

Surrogate Exceptions:

The lower control criterion was exceeded for surrogates o-Terphenyl and n-Triacontane in sample North Loading Dock. A small portion of the sample extract was lost during the sample preparation. A re-extraction was not performed because insufficient sample was available. Sample reanalysis produced similar results. The results for this sample were not reported. The client was notified and will re-sample. No further corrective action was possible.

Approved by EMW Date 4/16/03

00004

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K2301907
Project:	Seattle Groundwater	**Date Collected:**	03/10/2003
Sample Matrix:	Water	**Date Received:**	03/13/2003

Diesel and Residual Range Organics

Sample Name:	West Parking Lot	**Units:**	ug/L
Lab Code:	K2301907-001	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	6200	Y	250	1	03/17/03	03/19/03	KWG0303416	
Residual Range Organics (RRO)	1100	O	500	1	03/17/03	03/19/03	KWG0303416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	87	50-150	03/19/03	Acceptable
n-Triacontane	88	50-150	03/19/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Longview Fibre Company	**Service Request:**	K2301907
Project:	Seattle Groundwater	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG0303416-4	**Basis:**	NA
Extraction Method:	EPA 3510C	**Level:**	Low
Analysis Method:	NWTPH-Dx		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	250	1	03/17/03	03/18/03	KWG0303416	
Residual Range Organics (RRO)	ND	U	500	1	03/17/03	03/18/03	KWG0303416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	89	50-150	03/18/03	Acceptable
n-Triacontane	92	50-150	03/18/03	Acceptable

Comments:

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068

SR#: K2301907

PAGE _____ OF _____ COC # _____

PROJECT NAME: SEATTLE GROUND WATER
PROJECT NUMBER:
PROJECT MANAGER: JIM MANTELL
COMPANY/ADDRESS: LONGVIEW FIBRE CO. 5901 E. MARGINAL WAY S. SEATTLE
PHONE #: 206-762-2170 FAX #: 206 767 2442
SAMPLER'S SIGNATURE: James R Mantell

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐	Volatile Organics 624 ☐ 8260 ☐	Hydrocarbons (*see below) Gas ☐ Diesel (1) ☐ Oil ☐ ☐ Fuel Fingerprint (FIQ) ☐ NW-HCID Screen	Oil & Grease/TRPH 1664 HEM ☐ 1664 SGT ☐	PCB's Aroclors ☐ Congeners ☐	Pesticides/Herbicides 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐	Chlorophenolics - 8151M Tri ☐ Tetra ☐ PCP ☐	PAHS 8310 ☐ SIM ☐	Metals, Total or Dissolved (See list below)	Cyanide ☐ Hex-Chrom ☐	pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS (circle)	NH_3-N, COD, Total-P, TKN, TOC, DOC (circle) NO_2+NO_3	TOX 9020 ☐ AOX 1650 ☐ 506 ☐	REMARKS
WEST PARKING LOT	3/10				1															
NORTH LOADING DOCK	3/10				1															

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 Day
____ Standard (10-15 working days)
____ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORHTWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

SAMPLES LABELED
NORTH LOADING DOCK 3-10-03
WEST PARKING LOT 3-10-03

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature: James R Mantell	Date/Time: 3/12/03 2:00 PM	Signature:	Date/Time: 3/13/03 1000	Signature:	Date/Time:	Signature:	Date/Time:
Printed Name: JAMES R MANTELL	Firm: LONGVIEW FIBRE CO	Printed Name: AP HUNTER	Firm: CAS	Printed Name:	Firm:	Printed Name:	Firm:

RCOC #1 04/02

LFC002330

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

Project/Client Longview Fibre Work Order K23 1907

Cooler received on 3/13/03 and opened on 3/13/03 by KBlack

1.	Were custody seals on outside of cooler? If yes, how many and where?	Y (N)
2.	Were seals intact and signature & date correct?	Y (N)
3.	Is the shipper's airbill available and filed? If no, record airbill number:	(Y) N
4.	COC #	
	Temperature of cooler(s) upon receipt: 8.0	
	Temperature Blank: n/a	
5.	Were custody papers properly filled out (ink, signed, etc.)?	(Y) N
6.	Type of packing material present 1-thawed gel packs- mesh - bmwp	
7.	Did all bottles arrive in good condition (unbroken)?	(Y) N
8.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(Y) N
9.	Did all bottle labels and tags agree with custody papers?	(Y) N
10.	Were the correct types of bottles used for the tests indicated?	(Y) N
11.	Were all of the preserved bottles received at the lab with the appropriate pH?	Y N
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?	Y N
13.	Did the bottles originate from CAS/K or a branch laboratory?	(Y) N
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?	Y N
15.	Was Cl2/Res negative?	Y N

Explain any discrepancies: _____

RESOLUTION: OK to Test Lans 3/17/03

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
All					0	TB